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RETAIL MARKETING OF MEATS[1]

Agencies of Distribution, Methods of Merchandising, and Operating Expenses and Profits[1]

By HERBERT C. MARSHALL, *Specialist in Economic Research, Bureau of Agricultural Economics*

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AGENCIES OF DISTRIBUTION AND METHODS OF MERCHANDISING

CANVASS OF REPRESENTATIVE DISTRICTS

The retail meat trade is less routine in character than the trade in other foodstuffs, and the dealer requires both extended experience and thorough study of the business in order to achieve reasonable success and to meet his responsibilities to customers and to the general public.

Three characteristics of fresh meat are instrumental in making the problems of retailing difficult.

(1) Meat is highly perishable and must be held at low temperatures or be sold promptly. It may be preserved by freezing, but its value as fresh meat is greatly lessened by this process. Accordingly, the adjustment of supply and demand, both in the wholesale and in the retail trade, enables the dealer at times to sell at excessive prices and compels him at other times to sell at great sacrifice.

(2) The difficulty of precise standardization and the lack of understanding of quality by the average consumer, and in some measure by dealers. In consequence, unfair dealing is more easily possible and greater reliance must be placed upon the skill, knowledge, and honesty of the dealer than in most other lines of trade.

(3) Lack of homogeneity and uniformity in value. The retail dealer in purchasing a side of beef of good grade receives from 55 to 65 per cent of lean meat, from 20 to 30 per cent of visible fat, and from 10 to 15 per cent of bone. Edible portions differ greatly in palatability and tenderness, and the amount of bone varies from 40 or 50 per cent or more in the shanks to an almost negligible amount in some of the fleshy cuts. Between different grades and even between animals of the same grade these percentages differ materially. The varying styles of dividing the animal into retail cuts and the necessity for trimming away parts of the bone and fat introduce a further personal element.

An understanding of the business of an individual concern necessitates consideration of a variety of factors. In a study of the trade of the country generally, the variety of factors involved is greatly increased.

In this investigation a complete personal canvass was made from January to August, 1920, of 28 cities and of the rural districts of 8 counties. Five suburban municipalities were also convassed, each with a population of at least 2,500, making a total of 33 urban districts under the census classification. Each of 7 of the counties contained one or more of the cities canvassed. The remaining county was entirely rural, containing no municipality with a population so large as 2,500. (See fig. 1).

The cities were fairly representative of the entire country as to geographical location, climatic conditions, and varying types of industry. The total population of the 33 urban districts was 2,877,957 in the census of 1920. In them were a total of 3,504 stores selling fresh meats. (See Table 8.) The eight counties canvassed were fairly representative of the various types of farming and rural

life, and the population including villages of less than 2,500 inhabitants in the census of 1920 was 181,208. In them were 137 stores selling fresh meats, in some instances for a part of the year only and usually with groceries and sometimes other merchandise. (See Table 22.)

Information was obtained from dealers regarding their experience, previous occupation, nationality, and the general character of their business as to permanency, type of store, class of business, volume of sales, grade of meats sold, advertising and accounting methods, sanitary conditions, character of the locality, and certain other items serving to give a general picture of the trade in these representative districts and thereby of the entire country. Special

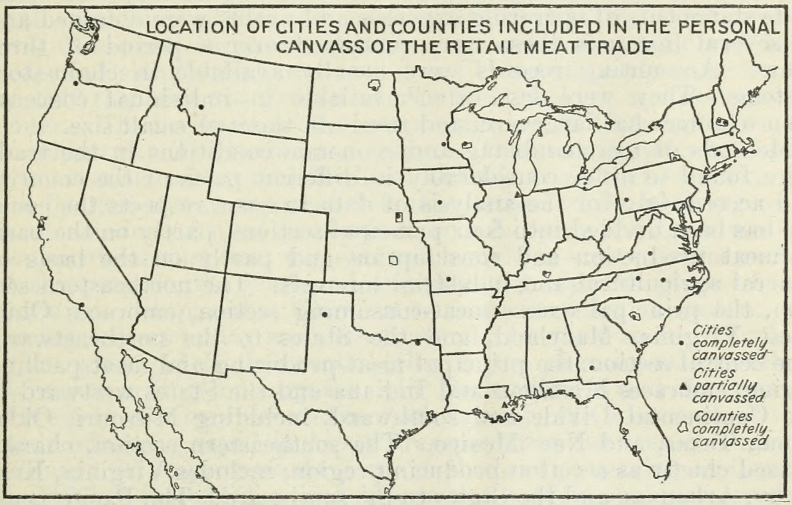
LOCATION OF CITIES AND COUNTIES INCLUDED IN THE PERSONAL CANVASS OF THE RETAIL MEAT TRADE
Cities completely canvassed
Cities partially canvassed
Counties completely canvassed

FIG. 1.—*Cities completely canvassed: Northeast section.*—Concord, N. H., Franklin, N. H., Lowell, Mass., Hartford, Conn., Binghamton, N. Y. (including Union, Endicott, Johnson City), Pittsburgh, Pa. *Central section.*—Terre Haute, Ind., Eau Claire, Wis., St. Paul, Minn., Grand Forks, N. Dak., Devils Lake, N. Dak., Butte, Mont., Des Moines, Iowa, Lincoln, Nebr. (including Havelock, University Place), Springfield, Mo., Amarillo, Tex., Paris, Tex. *Southeast section.*—Lynchburg, Va., Bowling Green, Ky., Raleigh, N. C., Winston-Salem, N. C., Columbia, S. C., Albany, Ga., Savannah, Ga., Birmingham, Ala., Baton Rouge, La. *Pacific coast section.*—Portland, Oreg., Los Angeles, Calif.
Cities partly canvassed.—New York City, N. Y., Baltimore, Md., Chicago, Ill., Memphis, Tenn., New Orleans, La., San Francisco, Calif.
Counties completely canvassed.—Merrimack, N. H., Broome, N. Y., Eau Claire, Wis., Ramsey, N. Dak., Lancaster, Nebr., Marion, Kans., Warren, Ky., Richland, S. C.

effort was made to locate concerns with accounting records, and examination was made of all available records covering the year 1919 of concerns whose trade was exclusively or almost exclusively in meats and of a limited number of concerns with a combination of fresh meat and grocery trade, to obtain data regarding operating expenses, the gross margin between cost of merchandise at wholesale and sales at retail, and the net profits of the dealer. In the rural districts information was obtained regarding such distributing agencies as meat wagon routes, meat peddlers, and beef clubs; and this canvass was supplemented by requesting information by mail from 1,683 county agricultural agents throughout the country. There has also been received a considerable body of information obtained by a canvass of the meat trade of New York City by the

Federal food board of that city in 1918, some of which has been incorporated with the results of the present study.

In six additional large cities a partial canvass was made to obtain general information regarding conditions in the trade, and particularly to obtain additional data as to operating expenses and profits. Data regarding chain-store systems and branches in the cities completely canvassed were obtained at the time of the general canvass of the trade, and information was subsequently obtained as far as possible from all the larger meat and grocery chain systems of the country concerning their growth in recent years and concerning the volume of their operations in meats and groceries in an effort to determine their economic importance at the present time and the present tendency. From a number of chain systems complete statements of operating expenses and profits were obtained and in several instances these were continued over a period of three years. Accounting records were usually available in chain-store systems. They were less often available in individual concerns even of somewhat large size, and rarely in those of small size.

Methods of merchandising and economic conditions in the trade were found to differ considerably in different parts of the country, and accordingly for the analysis of data in some respects the country has been divided into four principal sections, partly on the basis of meat production and consumption and partly on the basis of general agricultural and industrial interests. The northeastern section, the principal excess meat-consuming section, embraces Ohio, West Virginia, Maryland, and the States to the northeastward. The central section, the principal meat-producing and meat-packing region, embraces Michigan and Indiana and the States westward to the Continental Divide and southward, including Missouri, Oklahoma, Texas, and New Mexico. The southeastern section, characterized chiefly as a cotton-producing region, includes Virginia, Kentucky, Arkansas, and the States to the southward. The Pacific coast section includes the seven States west of the Continental Divide. This division is especially serviceable in dealing with operating expenses and profits in the trade, but it is of some service also in considering methods of merchandising.

DEVELOPMENT OF THE RETAIL MEAT BUSINESS

The development of the retail meat business has been largely a result of the urbanization of our population and the centralization of the slaughtering and meat-packing industry. Formerly meats sold at retail, particularly in the summer in the less populous communities, were largely cured and dry salt meats, whose handling did not necessitate special equipment. The fresh meats sold by the village or city butcher were of local slaughter, and except in the winter were usually sold within 48 hours. The equipment of the early shops was essentially crude. Refrigeration was not universal, sanitary conditions were indifferent, and inspection for disease was not attempted.

As the stock-raising industry moved westward, meat slaughtering tended to greater specialization. Before the Civil War abattoirs had been established in several eastern cities, where large numbers of

cattle shipped or driven on the hoof from trans-Allegheny territory were slaughtered. During recent decades the growth of a large population remote from livestock-producing regions, the centralization of the meat-packing industry, and the development of the wholesale trade generally have resulted in displacing the old-fashioned butcher by the retail market, which depends upon wholesale channels for its supply.

Even in many rural sections slaughtering has been practically abandoned, either because a regular supply is not obtainable throughout the year or because the meat can be procured more economically or more conveniently from centralized establishments. Changes in methods of distribution have been marked, and the percentage of meat passing through commercial channels has greatly increased.

Meat-packing plants were early established in the West, and by 1820 Cincinnati surpassed Boston as a market for cattle and hogs. Extensive slaughtering was begun in Chicago as early as 1832, and by 1842 that city was prominent as a meat-packing and distributing center. The invention of the refrigerator car in 1868 revolutionized the industry. The business of shipping fresh meats under refrigeration encountered great difficulties; but the trade increased rapidly, and by 1885 it was apparent that this method of slaughtering cattle in the section of meat production, and shipping the fresh meat to centers of consumption, was destined largely to supersede the method of shipping on the hoof and slaughtering near the place of consumption. Shipments of live cattle from the West to eastern consuming centers to-day are almost entirely for the "kosher" trade.

The principal factors contributing to the phenomenal growth of the meat-packing industry are: (1) The settlement and development of western territory devoted to stock raising; (2) a network of railroads affording rapid and easy transportation between the various sections; (3) improvements in the methods of preserving and curing meats; (4) introduction and improvement of mechanical processes of refrigeration, particularly the refrigerator car; (5) utilization of practically the entire animal, through development of the by-product industries; (6) adoption of efficient labor-saving machinery; and (7) rigid sanitary practices for safeguarding the health of the consumer.

CHANNELS FOR DISTRIBUTING MEAT TO RETAILERS

There are two greatly differing systems through which dressed meat passes from producer to retailer for sale to consumer. The system of greatest economic importance is the centralized packing plant with its subordinate agencies. Of secondary importance is the system of local slaughter of livestock.

CENTRALIZED PACKING PLANTS

In connection with centralized packing plants there is necessarily a complicated system of distribution, but the subordinate instrumentalities usually function merely as channels of distribution and not as middlemen, since there is usually no change of ownership until the final transfer to the retailer. Thus, there are fewer actual

middlemen in the handling of dressed meat than of any other food product which passes on a large scale through the manufacturing process.

Branch houses.—For a time after the refrigerator car had lengthened the radius of the market, properly equipped commission merchants and independent wholesalers were largely employed to sell the fresh meats, and the smaller packers still employ these agencies as the chief market outlet for their surplus product. However, as the larger packers early found it desirable to own and control facilities for distribution, branch houses with refrigerated rooms were established at strategic points.

There are approximately 2,000 such branch houses distributed among practically all the principal cities. Of these branch houses, 42.3 per cent are in the North Atlantic division, 11.8 per cent in the South Atlantic, 22.0 per cent in the North Central, 13.6 per cent in the South Central, and 10.3 per cent in the Western division. These branch houses are usually built adjacent to railroad tracks, making possible the direct discharge of meats from the cars, and are generally equipped with systems of overhead tracking on which quarters of beef and carcasses of small stock are handled and stored.

As soon as it became evident that this method was successful, packers began to add other lines which made necessary the addition of sausage factories, smoke houses, and storerooms for canned meat, lard, and other products. Larger retailers and others conveniently located customarily visit the branch house and personally select their purchases. The smaller retailers, especially those in the outlying districts, in many instances buy through packer branch salesmen, and the purchases are delivered. The branch houses are held responsible for canvassing the towns and villages in the adjacent territory. The out-of-town trade is served by local freight and express.

Refrigerator-car routes.—The packer refrigerator cars operating on established car routes are an important means of distribution. As they formerly sold meats and other perishable foods from the cars en route, they are sometimes called "peddler cars." By this method retailers in centers not large enough to support branch houses are supplied two or three times a week and sometimes daily direct from the packer. Traveling salesmen solicit orders from route customers. Shipments are generally loaded in station order for convenience of the train crew in unloading. The cars are routed over the different railway lines on regular schedules and are often moved considerable distances as parts of through fast freight trains till they reach distributing territory, where they are placed in local trains.

The shipments are handled at unloading stations much as other ordinary less-than-carload freight. Retail dealers, particularly in warm weather, meet the cars on arrival or call for their shipments soon afterward. An important feature of the car-route system of distribution is its flexibility. Thus, any territory reached by a railroad furnishes a possible market; and, since no expense is involved in erecting buildings or equipment, new territory can easily be tested. The car-route method is more commonly used in the livestock-producing area and in the region where the cities are too small to support branch houses.

Express shipments.—Retail dealers not on refrigerator-car routes are often served by the packers through express companies which are also often used for special orders. Branch houses frequently use them to reach their trade in neighboring localities.

Jobbers.—With the development of other distribution agencies, the functions of jobbers became less important. They now usually handle the products of the smaller slaughterers and packers, reducing carcasses to desired wholesale cuts, and distribute excess stocks or special lines. They purchase in comparatively large quantities and usually under favorable market conditions and sell in smaller quantities to the retail trade and frequently to hotel and restaurant trade. The jobbing trade is especially large in Boston, where certain western packers are not directly represented and therefore use the jobbers.

Wholesale peddlers.—In some cities, especially in Chicago, jobbers often conduct transactions on a scale so small that they are called "peddlers." They obtain their meat from the packers at prices approximately 1 cent per pound lower than ordinary retailers and often have special opportunities in week-end clean-up sales. As their dealings are usually with small grocers handling small quantities and limited in their knowledge of the meat trade, they sometimes obtain excessive prices, but often their customers find dealing through them more satisfactory than directly with the packer.

Retailers in capacity of jobbers.—In most market centers are dealers who, in addition to their own retail business, act as jobbers, selling in small quantities to small grocery stores that carry fresh meats largely as an accommodation to their customers. Pork-chops and steaks constitute the bulk of the meat so distributed.

LOCAL SLAUGHTER

Local slaughter in many instances betters the position of the livestock grower by furnishing a local market, thus eliminating expenses and losses of transportation. Sometimes it utilizes animals that, because of insufficient number or unfinished condition, can not profitably be shipped to centralized markets. The producer and consumer jointly will ordinarily receive whatever saving may be effected by this local trade.

That advantages of slaughtering in centralized establishments in most instances outweigh the disadvantages is apparent from the great decrease in the amount of local slaughter, even where an adequate supply of livestock is available. Moreover, most meat slaughtered outside the centralized packing plants receives no adequate inspection like the Government inspection for interstate shipment. Unless satisfactory local inspection is provided, insanitary conditions in local slaughterhouses and the sale of meat of diseased animals are likely to be of greater consequence to the community than the economic advantage or disadvantage of local as compared with centralized slaughter. Local slaughter may be by a slaughterer who sells meat products to the retailer or by the retailer himself who conducts his slaughtering operations either in a private slaughterhouse or in a central abattoir.

METHODS, PRACTICES, AND CONDITIONS IN THE TRADE

TYPES OF STORES

Centralization of the slaughtering and meat-packing industry is primarily responsible for the passing of the old-fashioned butcher-retailer. The city retailer of fresh meats of half a century ago was a specialist, and his retail shop, the straight meat market, was one form of the specialty store. To-day, because of this centralization and a concomitant development of a system for distributing packing-house products to substantially all urban communities and to many strictly rural communities, local retail slaughter is very largely limited to rural communities. The former city retailer, a specialist in slaughtering and cutting, is being replaced by a retailer who is little more than a salesman, with a resultant shift in type of retail store from the straight meat market to the combination meat and grocery store. In rural communities the trade is usually carried on by the general store or other store of the combination type.

Straight meat markets.—The so-called straight meat markets rarely confine their trade to fresh and cured meats. Poultry, fish, canned meats, or some combination of the three, and catsup and sauces are usually carried, and many carry fresh vegetables both in season and out of season. A small percentage of the markets handle butter and eggs, and a still smaller percentage carry bread.

Stalls in public markets.—In many cities there are public markets in which stalls leased to individual retailers carry meat. As a rule, those selling meats confine their operations to that one line.

Meat sections in department stores.—In some department stores there are independent sections given over to retailing meats. They are so few as to be of comparative unimportance.

Combination meat and grocery stores.—By far the most important numerically is the combination meat and grocery store group. Only individual or unit stores are included in this classification; combination meat and grocery stores organized on a chain-store basis are included under chain stores. For simplification, the comparatively few general merchandise stores retailing fresh meats are included under combination meat and grocery stores.

Chain stores.—A chain-store system has been well defined as "a group of scattered stores with single ownership and centralized management." It is an attempt to combine the advantages of large-scale buying and other economies effected by centralized control with the advantages of the scattered individual stores conveniently located with respect to customers. By far the greater number of chain stores that handle fresh meats are of the combination meat and grocery type, comparatively few being straight meat markets. A number of chain systems operate two or more types—straight meat markets, combination stores, straight grocery stores.

DISTRIBUTION OF VARIOUS TYPES OF STORES

In the 33 cities and other urban districts from which complete data regarding types of stores were obtained, 61.35 per cent of the stores were of the combination meat and grocery type; 26.86 per cent

were straight meat markets; 6.11 per cent chain stores that handled meats; 5.48 per cent stalls in public markets; and 0.20 per cent meat sections in department stores. (See Table 1.) There is a wide difference in the percentages of the various types of stores for particular cities. Portland, Oreg., and St. Paul, Minn., with 35 per cent of their stores of the combination meat and grocery type and Lowell, Mass., with 98 per cent, illustrate extreme differences in prevalence of this type. In general, the North and West have a low percentage of combination meat and grocery stores and a relatively high percentage of straight meat markets, as compared with the East and South.

TABLE 1.—*Stores retailing fresh meats, classified by types and by service rendered*

[28 cities and 5 suburban municipalities completely canvassed: 1920]

City	Total number of stores	Types of stores										Service rendered			
		Combination meat and grocery stores		Straight meat markets		Chain stores		Stalls in public markets		Meat sections in department stores		Cash and carry		Service	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Concord, N. H.	26	24	92.31	1	3.85	1	3.85					4	15.38	22	84.62
Franklin, N. H.	9	9	100.00									1	11.11	8	88.89
Lowell, Mass.	162	159	98.15			3	1.85					10	6.17	152	93.83
Hartford, Conn.	218	190	87.16	24	11.01	4	1.83					29	13.30	189	86.70
Binghampton, N. Y., and suburbs	90	82	91.11	7	7.78	1	1.11					25	27.78	65	72.22
Pittsburgh, Pa.	648	248	38.27	245	37.81	82	12.65	72	11.11	1	.15	245	37.81	403	62.19
Terre Haute, Ind.	149	137	91.95	10	6.71	2	1.34					8	5.37	141	94.63
Eau Claire, Wis.	10	3	30.00	7	70.00									10	100.00
St. Paul, Minn.	181	64	35.36	117	64.64							43	23.76	138	76.24
Grand Forks, N. Dak.	10	2	20.00	8	80.00							1	10.00	9	90.00
Devils Lake, N. Dak.	3			3	100.00									3	100.00
Butte, Mont.	82	43	52.44	19	23.17	10	12.20	8	9.76	2	2.44	10	12.20	72	87.80
Des Moines, Iowa	193	151	78.24	24	12.44	11	5.70	7	3.63			49	25.39	144	74.61
Lincoln, Nebr., and suburbs	118	80	67.80	10	8.47	28	23.73					37	31.36	81	68.64
Springfield, Mo.	93	83	89.25	9	9.68	1	1.08					12	12.90	81	87.10
Amarillo, Tex.	20	19	95.00	1	5.00							4	20.00	16	80.00
Paris, Tex.	12			12	100.00							6	50.00	6	50.00
Lynchburg, Va.	23	13	56.52	3	13.04			7	30.43					23	100.00
Bowling Green, Ky.	27	24	88.89	3	11.11							6	22.22	21	77.78
Raleigh, N. C.	26	10	38.46	3	11.54			13	50.00					26	100.00
Winston-Salem, N. C.	49	24	48.98	13	26.53			12	24.49			2	4.08	47	95.92
Columbia, S. C.	30	12	40.00	18	60.00							4	13.33	26	86.67
Savannah, Ga.	168	134	79.76	17	10.12			17	10.12			6	3.57	162	96.43
Albany, Ga.	13	9	69.23	4	30.77							4	30.77	9	69.23
Birmingham, Ala.	371	324	87.33	33	8.89	14	3.77					58	15.63	313	84.37
Baton Rouge, La.	19			17	89.47			2	10.53			2	10.53	17	89.47
Portland, Oreg.	179	62	34.64	103	57.54			14	7.82			23	12.85	156	87.15
Los Angeles, Calif.	575	244	42.43	230	40.00	57	9.91	40	6.96	4	.70	324	56.35	251	43.65
Total	3,504	2,150	61.35	941	26.86	214	6.11	192	5.48	7	.20	913	26.06	2,591	73.94

The Louisiana sanitary code requires that stores retailing fresh meats in that State be in rat-proof buildings, be 3½ feet clear from any other structure, and be not under the same roof or have entrance to any other kind of store. Accordingly no combination meat and grocery stores were found in the canvass of Baton Rouge. New Orleans, an incompletely canvassed city, had 20 public markets with a

total of 227 meat stalls and 9 quasi-public markets with a total of 21 meat stalls. It has no combination meat and grocery stores and but few meat stores. The Louisiana sanitary code is the only instance of State legislation that is of any consequence in determining the type of store. In general, cities in the Southern States were found to have the highest percentage of stalls in public markets; in Raleigh, N. C., Lynchburg, Va., and Winston-Salem, N. C., 50 per cent, 30 per cent, and 25 per cent, respectively, of the stores retailing fresh meats were of this type.

RECENT GROWTH OF CHAIN-STORE SYSTEMS

Chain stores have become an important factor in the grocery trade in recent years, but their development in the sale of fresh meats has been of much less importance. One grocery system in the year 1922 (Table 2) had more than 5,000 stores (4,952 on January 1), with sales of more than $200,000,000 in each of the years 1920 and 1921, the result of a gradual growth covering more than 60 years. As the result of a thorough canvass of the trade, 26 additional systems carrying a full line of groceries, and cured meats in some instances, with more than 75 stores each, reported the total number of stores in their systems as 5,114 on January 1, 1922.

TABLE 2.—*Growth of 70 chain-store systems from 1916 to 1922*

[Number of stores on Jan. 1 of each year]

Year	27 systems selling groceries only		24 systems selling both groceries and meats						19 systems selling meats only	Total of 70 systems		
			2 large systems			22 additional systems						
	1 large system	26 additional systems	Grocery stores	Combination stores	Meat stores	Grocery stores	Combination stores	Meat store		Stores selling groceries only	Combination stores	Stores selling meats only
1916	1,817	1,600	1,246	275	------	421	258	10	148	5,084	533	158
1917	2,867	1,929	1,254	330	------	539	293	12	170	6,589	623	182
1918	3,782	2,536	1,359	338	------	672	339	18	200	8,349	677	218
1919	3,799	3,003	1,375	385	------	878	394	25	229	9,055	779	254
1920	4,150	3,700	1,422	521	------	1,044	445	37	267	10,316	966	304
1921	4,647	4,604	1,635	599	------	1,107	552	66	299	11,993	1,151	365
1922	4,952	5,114	1,663	716	------	1,160	701	67	357	12,889	1,417	424

In this table are included 27 grocery systems with 75 or more stores each, 24 combination systems with 25 or more stores each, and 19 meat systems with 10 or more stores each. Five of the grocery systems, one combination system, and one meat system began operations since January 1, 1916. All the others were in existence on January 1, 1916. Three additional straight-grocery systems were found, 4 additional combination systems and 2 additional straight-meat systems of the size indicated, but data could not be obtained showing their annual growth. It is believed that there are not many additional systems with such large numbers of stores, although considerable numbers of systems exist with smaller numbers of stores. There are, moreover, a few systems with from but 5 to 10 stores each, but with sales larger than some of those included in this table. Such concerns are located principally in the business districts of large cities and cater primarily to transient trade rather than to family trade in the residence districts, as is characteristic of the typical chain store.

Of systems selling fresh meats in addition to groceries, two had more than 1,000 stores each; one of these was the result of a combination of five systems at the close of 1916 and the other was built up over a period of 20 years, absorbing several small systems in recent years. Three additional combination systems reported more than 100 stores each. and 19 additional systems at least 25 stores

each. The total number of stores of these 22 systems on January 1, 1922, was 1,928 of which 1,160 carried groceries and in many instances cured meats, 701 carried fresh meats in addition to groceries and cured meats, and 67 carried meats only. Among these 24 combination systems, three reported having more than 100 stores each in which fresh meats were carried, the number being 512, 204, and 101, respectively. Although cured meats are carried in substantially all stores in these combination systems, fresh meats were reported as being carried in all stores in only four systems, the total number of stores in these systems being 173.

Of systems selling meats only, or in no instance handling other products amounting to more than 10 or 20 per cent of total sales, 19 systems reported 10 or more stores each. In these systems a total of 357 stores are included, four systems having more than 20 each and the remaining 15 less than 20 each.

These 70 systems have furnished complete data showing the increase in numbers of their stores from January 1, 1916, to January 1, 1922. At the end of the 6-year period, the number of stores of each kind was between two and one-half and three times as great as at the beginning. Since the systems of grocery stores maintained substantially an equal rate of expansion, notwithstanding the much larger average numbers, it is obvious that the possibility of development of large systems is much greater in the grocery than in the meat trade. If the enumeration included all the systems in the country, the total number of stores in 1922 would probably be much more than three times as great as in 1916, since most of the smaller systems have begun operations since 1916.

There are clearly defined reasons for the development of larger chain systems in the grocery trade than in the meat trade.

(1) In the grocery trade, the actual selling is largely a matter of routine, consisting merely of weighing, measuring, or counting the articles to be sold and calculating the total charge on the basis of units of uniform quality. In the general management and supervision of such routine work there is ample opportunity for the development of merchandising methods on a large scale, particularly in the cash-and-carry trade. In the fresh-meat trade however, the lack of homogeneity of the article on sale and the necessity for determining the amount of trim in each instance and for frequent adjustments of prices in order to dispose of slow-moving cuts render the immediate supervision of the owner of comparatively greater importance and the methods of general merchandising of comparatively less importance than in the grocery trade.

(2) The difficulty of obtaining suitable employees for the cutting and sale of meats is much greater than for the sale of groceries. Years of experience in judging quality and developed skill in the most economical methods of cutting are essential in retailing meats, whereas alertness of mind and body with comparatively little experience are entirely sufficient for the sale of groceries. It is difficult to bring into one system more than a few trustworthy and experienced meat cutters, but the general manager of the grocery chain may be able to employ considerable numbers of adaptable but little experienced clerks and even local managers for the stores of his system.

(3) The importance of personal interest of the salesman in the business is much greater in the meat than in the grocery trade. With substantially all goods in package form, as in the modern grocery, there is not much opportunity for economy or saving of waste that the owner can utilize, as compared with the paid employee. In the meat trade, the difference between a profit and a loss lies largely in the care in preventing deterioration of a highly perishable article or in exercising discrimination in the amount of trim that will be fair to the customer and retain his patronage and yet insure a profit. One serious evil of the meat trade is the dishonest practice often followed by customers, particularly in New York City, in paying to the salesman a small fee or tip for giving

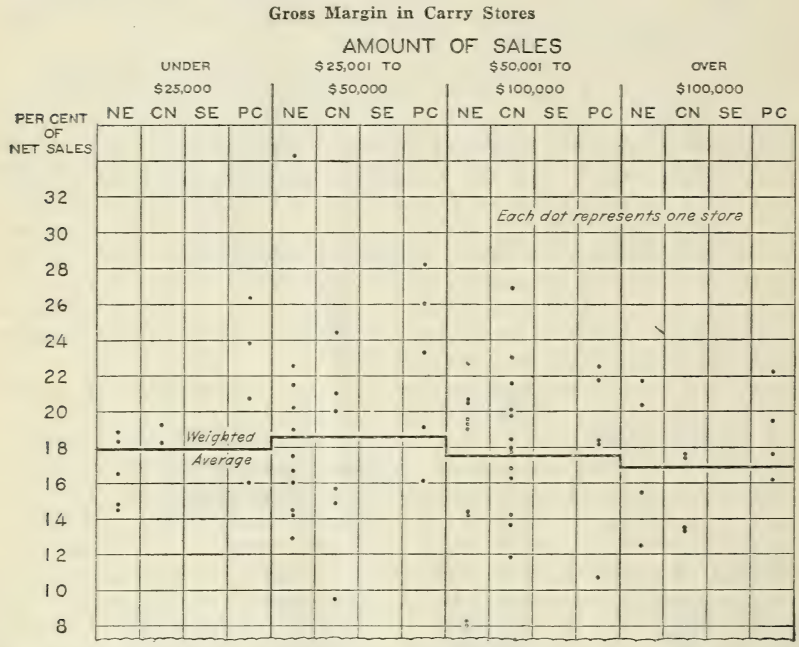

FIG. 2.—Stores or markets are grouped by volume of annual net sales and by section of country. Percentages are calculated on basis of annual net sales as 100 per cent. Abbreviations: NE, Northeast section; CN, Central section; SE, Southeast section; PC, Pacific coast section

an especially good cut or closer trim than usual. This practice illustrates the difficulty experienced by chain systems and by large individual concerns, as compared with the small shop where the work falls largely under the eye of the owner-manager. The evil can be met in the largest concerns by having the meats cut and trimmed in cutting rooms and displayed in refrigerated counters, where they are sold by a different group of employees as salesmen.

(4) The advantage in buying on a large scale is less in the meat trade than in other lines, except in job lots of meats, which being highly perishable are liable to deterioration. The chain system as well as its small individual competitor must make frequent purchases; and, although the purchases may be larger, they must be sent in small consignments to the various branches. There is not the opportunity

for warehousing on a large scale that exists in handling less perishable goods. Moreover, the purchase of meats by the small retailer as well as by the large dealer or the chain store is ordinarily directly from the slaughterer. There is not the opportunity for the elimination of one or more middlemen by purchases on a large scale that the chain store finds possible in other lines.

In the sale of meats in connection with groceries, however, there is an opportunity similar to the well-known practice in the grocery trade of using certain groceries as leaders which are sold at a margin that may not even pay operating expenses, whereas on other lines the margin is sufficient to pay operating expenses on these lines and a net profit for the entire business. When meats and groceries are sold together, the entire business may be profitable, although the grocery department alone may no more than meet operating expenses. Most groceries being thoroughly standardized and largely sold under established brands, strictly competitive prices are likely to be necessary, and cured meats of standard brands usually sell on a similar basis.

Fresh meats, however, can not be so thoroughly standardized and offer an especial opportunity for providing the profit for the entire business because of the inability of the average customer to judge quality and because of the impossibility of exact determination of proper relationship of prices even by those more expert. Accordingly, the sale of meats in connection with groceries offers this advantage that may more than compensate for the disadvantage that the chain store experiences in the necessity of relying so largely upon paid employees with imperfect supervision. It is undoubtedly largely in consequence of this advantage that chain systems carrying meats in connection with groceries develop into larger systems than those selling meats alone. There are instances of small combination stores carrying meats on a narrow margin, largely as an accommodation to their grocery trade, but in concerns with dealings on a larger scale the wider margin is regularly on fresh meats.

In general, in the relationship of the fresh-meat trade to the grocery trade in chain-store systems, the three types are more or less clearly defined. In the sale of standardized goods a clear opportunity exists for merchandising on a large scale, particularly when limited to sales over the counter without such additional services as credit or delivery. So great are the advantages of these large-scale operations that such systems are steadily increasing in size, and individually owned concerns are finding it desirable to unite in associations for joint purchasing and joint advertising. In the straight meat trade the necessity of close supervision by the owner ordinarily limits the number of stores in each system to 20 or less. In the intermediate class of chain systems of combination stores, it is undoubtedly the advantage of larger profit per unit that is the controlling factor in causing the inclusion of meats. Chain systems that do develop considerable numbers of stores selling fresh meats, either alone or in connection with groceries, accomplish the result either through closer supervision than is required for systems dealing in standardized products only or through a form of organization that gives the branch manager a percentage of profits or makes him in some respects virtually an independent dealer.

CLASSES OF SERVICE RENDERED BY STORES

Cash-and-carry stores.—Stores doing a strictly noncredit and nondelivery business are designated as "cash and carry." There are wide variations in comparative numbers of such stores in the various cities. (See Table 1.) Los Angeles, Calif., and Pittsburgh, Pa., the two largest cities canvassed, showed the highest percentage of cash-and-carry stores, 56 and 38 per cent, respectively. By omitting these two cities the percentage of such stores is reduced from 26 to 15. In the cities canvassed in the northeastern section 27 per cent of the stores were on a cash-and-carry basis, in the central section 20 per cent, and in the southeastern section only 11 per cent. Of the chain stores 81 per cent were on a cash-and-carry basis and of the combination meat and grocery stores only 15 per cent were of the strictly cash-and-carry type. For straight meat markets and stalls in public markets the percentages were 32 and 60, respectively.

Service stores.—All stores not doing a strictly cash-and-carry business are included under "service stores." In this class there are three subclasses: (1) Stores supplying both credit and delivery service, designated as "credit-and-delivery stores"; (2) stores doing a strictly cash business but maintaining delivery service, designated as "cash-and-delivery stores"; and (3) stores granting credit but not maintaining a delivery service, designated as "carry-and-credit stores." Of the 3,504 stores in the cities completely canvassed, 26 per cent were on a strictly cash-and-carry basis, 9 per cent were on a cash-and-delivery basis, 11 per cent were on a carry-and-credit basis, and 55 per cent gave both credit and delivery service. (See Table 3.)

In distinguishing between the stores on a strictly cash basis and those extending credit, it was found (Table 4) that 35 per cent were on a strictly cash basis; 36 per cent, although granting credit, had more than 50 per cent cash sales; 17 per cent had sales approximately half cash and half credit; and only 12 per cent had appreciably less cash than credit sales. More combination meat and grocery stores furnished credit than any other type, only slightly more than one-fifth doing a strictly all-cash business. More than two-fifths of the straight meat markets gave no credit to customers, and two-thirds of the stalls in public markets were on a cash basis. Only 14 per cent of the chain stores and 29 per cent of the meat sections in department stores carried charge accounts for their customers.

In distinguishing between the stores on the basis of the service performed with reference to delivery, it is found (Table 5) that 37 per cent of the 3,504 stores were on a strictly all-carry or nondelivery basis, 22 per cent delivered less than half, 16 per cent delivered approximately half, and 25 per cent delivered more than half of the meat sold. Comparatively few of the chain stores and stalls in public markets maintain a delivery service, and more of the combination stores than any other type deliver their customers' purchases.

Credit or delivery service as furnished by the retailer can hardly be regarded as an absolute economic waste. In some instances such services are due to indolence and extravagance on the part of the consumer, to general inertia in changing from traditional methods, or to the persuasive methods employed by the retailer to attract patronage on the basis of services rendered rather than price. However, in

most instances, the performance of such service is the logical working out of the principle of the division of labor. In some instances the customer can better afford to carry his purchases than to pay for the service; in others it is more worth his while to pay for the service.

Credit and delivery service occasions an expense that must ultimately be paid by the consumer. Since all credit-and-delivery stores do more or less cash-and-carry business, it would seem logical to make a charge for these services separate and distinct from the commodity. But the survey indicates that the number of stores differentiating between the value of the service rendered and the value of the commodity is comparatively small. When this differentiation is made, the quoted price is sometimes for the commodity on a noncredit and nondelivery basis. In such instances customers demanding delivery are assessed an extra charge, customarily a flat rate of 5 or 10 cents per trip; the accounts of credit customers are debited a flat sum of perhaps 25 or 50 cents monthly for the credit service. This method of handling the credit-and-delivery business, sometimes termed the "four-square" plan, conforms to just principles. Another method of differentiating is by granting a discount from the quoted price to those customers not demanding the credit and delivery service. From the standpoint of individual retailers, the plan of differentiating between the value of the commodity and of the service has not proven a success. Customers demanding the service are inclined to resent the extra charge and to transfer their patronage to a store operated on the usual basis.

The existence of the cash-and-carry type of store is due to willingness of many customers to pay cash or to carry their purchases or both in order that they may benefit from the lower prices that are made possible and usually prevail in that type; and correspondingly the existence of service stores is due to the willingness of most persons to pay for delivery rather than to perform the service themselves and perhaps also to pay for the extension of credit by purchasing either more largely from the particular concern or at slightly higher prices, as the policy of the particular retailing concern may have developed. The purchasing public is the real arbiter as to what services the retailer shall render and ultimately what form the development of retail business shall take. The comparatively greater prevalence of the cash-and-carry type of store in the northeastern section reflects the thrift of the people of that section, just as the comparatively greater prevalence of the service type in the southeastern section reflects the lesser prevalence of that quality. However, patronage of the service store is often because of a clear understanding that it is more economical, in the instance of the particular customer at least, to pay the dealer for delivering merchandise than for the customer to carry it himself.

In those localities where both cash-and-carry and service stores are found, it is noteworthy that delivery service is more prevalent in local neighborhood stores than in establishments located in commercial sections. Stalls in public markets and other concerns of moderate size located in commercial sections find difficulty in maintaining delivery service because of the expense of delivering at widely scattered residences. Concerns dealing largely with hotels and restaurants regularly maintain delivery service with this portion of their trade, at least, because these deliveries are in quantity. Even

concerns with family trade exclusively, if of large size, located in commercial sections, are less likely to find delivery expense prohibitive than smaller concerns similarly located, since the number of deliveries in any section of the city by a large concern on a single trip is larger.

TABLE 3.—*Division of stores by service rendered*

Class of service and type of store	Total number of stores	Cash and carry		Cash and delivery		Cash and credit		Credit and delivery	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Cash-and-carry stores	913	913	100.00						
Service stores	2,591			300	11.58	379	14.63	1,912	73.79
Combination stores	2,150	320	14.88	158	7.35	279	12.98	1,393	64.79
Straight meat markets	941	299	31.77	120	12.75	90	9.56	432	45.91
Chain stores	214	174	81.31	9	4.21	5	2.34	26	12.15
Stalls in public markets	192	116	60.42	12	6.25	5	2.60	59	30.73
Meat sections in department stores	7	4	57.14	1	14.29			2	28.47
Total	3,504	913	26.06	300	8.56	379	10.82	1,912	54.57

TABLE 4.—*Cash and credit business summarized by number of stores*

Class of service and type of store	Total number of stores	All cash		More than half and less than all cash		Approximately half cash		Less than half cash but not all credit	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Cash stores	1,213	1,213	100.00						
Credit stores	2,291			1,256	54.82	605	26.41	430	18.77
Combination stores	2,150	478	22.23	880	40.93	423	19.67	369	17.16
Straight meat markets	941	419	44.53	322	34.22	154	16.37	46	4.89
Chain stores	214	183	85.51	14	6.54	13	6.07	4	1.87
Stalls in public markets	192	128	66.67	40	20.83	15	7.81	9	4.69
Meat sections in department stores	7	5	71.43					2	28.57
Total	3,504	1,213	34.62	1,256	35.85	605	17.27	430	12.27

TABLE 5.—*Carry and delivery business summarized by number of stores*

Class of service and type of store	Total number of stores	All carry		More than half and less than all carry		Approximately half carry		Less than half carry but not all delivery	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Carry stores	1,292	1,292	100.00						
Delivery stores	2,212			779	35.22	556	25.14	877	39.65
Combination stores	2,150	599	27.86	497	23.12	409	19.02	645	30.00
Straight meat markets	941	389	41.34	231	24.55	102	10.84	219	23.27
Chain stores	214	179	83.64	14	6.54	17	7.94	4	1.87
Stalls in public markets	192	121	63.02	36	18.75	28	14.58	7	3.65
Meat sections in department stores	7	4	57.14	1	14.29			2	28.57
Total	3,504	1,292	36.87	779	22.23	556	15.87	877	25.03

VOLUME OF SALES OF STORES BY TYPES AND CLASSES

Average and comparative annual sales.—The average annual sales for 1,448 stores of various types, the total number reporting in 7 completely canvassed cities (Table 6), were reported as follows: Combination meat and grocery stores, $23,813.50; straight meat markets, $40,829; chain stores, $56,743.50; stalls in public markets, $39,376.50. The average annual sales for the meat sections in the three department stores were $172,050; but these figures can not be considered conclusively representative, since the number of such stores canvassed was so small. The average annual sales of cash-and-carry stores of the various types were usually larger than of the service stores.

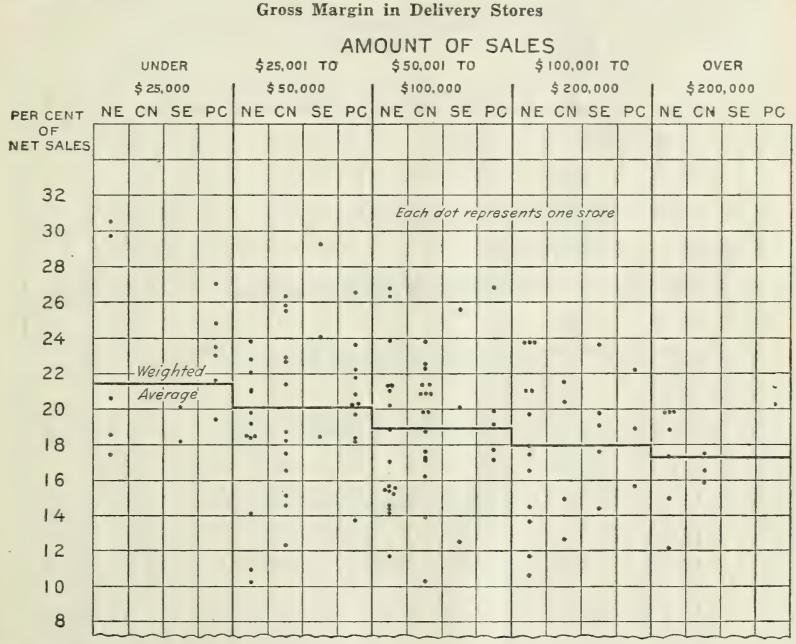

FIG. 3.—Stores or markets are grouped by volume of annual net sales and by section of country. Percentages are calculated on basis of annual net sales as 100 per cent. Abbreviations: NE, Northeast section; CN, Central section; SE, Southeast section; PC, Pacific coast section

More representative information regarding chain systems was obtained by examination of the records of 15 large systems covering the year 1919 (Table 26). In 7 cash-and-carry systems selling meats only, with a total of 120 stores, the average sales per store were $101,937.85; in 5 cash-and-carry systems selling both meats and groceries, with a total of 119 stores, the average sales of meats per store were $45,681.66; in 3 delivery systems selling meats only, with a total of 27 stores, the average sales were $69,433.49. These chain systems, located principally in large cities, probably have larger sales per store than those in smaller places, but they show the usual larger sales in cash-and-carry than in service stores of the same type and larger meat sales in the straight meat stores than in stores of the combination type.

TABLE 6.—*Comparative and average volume of sales of stores by types and classes*

[Seven completely canvassed cities, 1920]

A. NUMBERS OF STORES BY GROUPS

Annual meat sales	Combination meat and grocery stores			Straight meat markets			Chain stores			Stalls in public markets			Department stores	Totals by volume of sales	Cumulative total
	Cash and carry	Service	Total	Cash and carry	Service	Total	Cash and carry	Service	Total	Cash and carry	Service	Total	Service		
Not over $5,000	23	110	133											133	133
$5,001 to $10,000	14	141	155	8	22	30								185	318
$10,001 to $15,000	13	121	134	19	25	44	1	1	2	4		4		184	502
$15,001 to $20,000	16	149	165	16	51	67	9		9	2	1	3		244	746
$20,001 to $25,000	12	67	79	9	35	44	5		5	14	2	16	1	145	891
$25,001 to $30,000	7	58	65	10	47	57	7		7	7	2	9		138	1,029
$30,001 to $35,000	3	33	36	7	30	37	9		9	8	1	9		91	1,120
$35,001 to $40,000	5	18	23	6	17	23	9		9	5		5		60	1,180
$40,001 to $45,000	3	13	16	4	18	22	7		7	7		7		52	1,232
$45,001 to $50,000	1	7	8	2	9	11	6		6	1	1	2		27	1,259
$50,001 to $55,000	1	14	15	1	5	6	4		4	3	1	4		29	1,288
$55,001 to $60,000	6	4	10	2	6	8	4		4	3		3	1	26	1,314
$60,001 to $65,000		6	6	2	5	7	4	1	5	2		2		20	1,334
$65,001 to $70,000				1	3	4	2		2					6	1,340
$70,001 to $75,000	1	1	2				2		2					4	1,344
$75,001 to $100,000	6	11	17	6	11	17	6		6	3	1	4		44	1,388
$100,001 to $125,000		2	2	3	3	6	2	1	3	1		1		12	1,400
$125,001 to $150,000		3	3	2	3	5	2		2					10	1,410
$150,001 to $175,000	2		2	1	1	2	1		1	1		1		6	1,416
$175,001 to $200,000	3	3	6		1	1	2		2					9	1,425
$200,001 to $225,000		2	2	1		1								3	1,428
$225,001 to $250,000		1	1											1	1,429
$250,001 to $300,000	1	1	2		1	1	1		1	1		1		5	1,434
$300,001 to $350,000		1	1	1		1	1		1					3	1,437
$350,001 to $400,000					1	1								1	1,438
$400,001 to $450,000	1	1	2	1		1							1	4	1,442
$450,001 to $500,000		1	1	1		1								2	1,444
Over $500,000	1		1		3	3								4	1,448
Totals by type of store and class of service	119	768	887	103	297	400	84	3	87	62	9	71	3	1,448	

B. Percentage Relation of Groups to Totals

Annual meat sales	Combination meat and grocery stores			Straight meat markets			Chain stores			Stalls in public markets			Department stores service	Totals by volume of sales	Cumulative totals
	Cash and carry	Service	Total	Cash and carry	Service	Total	Cash and carry	Service	Total	Cash and carry	Service	Total			
Not over $5,000	19.33	14.32	14.99											9.19	[1] 9.19
$5,001 to $10,000	11.76	18.36	17.47	7.77	7.41	7.50								12.78	21.96
$10,001 to $15,000	10.92	15.76	15.11	18.45	8.42	11.00	1.19	33.33	2.30	6.45		5.63		12.71	34.67
$15,001 to $20,000	13.45	19.40	18.60	15.53	17.17	16.75	10.71		10.34	3.23	11.11	4.23		16.85	51.52
$20,001 to $25,000	10.08	8.72	8.91	8.74	11.78	11.00	5.95		5.75	22.58	22.22	22.54	33.33	10.01	61.53
$25,001 to $30,000	5.88	7.55	7.33	9.71	15.82	14.25	8.33		8.05	11.29	22.22	12.68		9.53	71.06
$30,001 to $35,000	2.52	4.30	4.06	6.80	10.10	9.25	10.71		10.34	12.90	11.11	12.68		6.28	77.35
$35,001 to $40,000	4.20	2.34	2.59	5.83	5.72	5.75	10.71		10.34	8.06		7.04		4.14	81.49
$40,001 to $45,000	2.52	1.69	1.80	3.88	6.06	5.50	8.33		8.05	11.29		9.86		3.59	85.08
$45,001 to $50,000	.84	.91	.90	1.94	3.03	2.75	7.14		6.90	1.61	11.11	2.82		1.86	86.95
$50,001 to $55,000	.84	1.82	1.69	.97	1.68	1.50	4.76		4.60	4.84	11.11	5.63		2.00	88.95
$55,001 to $60,000	5.04	.52	1.13	1.94	2.02	2.00	4.76		4.60	4.84		4.23	33.33	1.80	90.75
$60,001 to $65,000		.78	.68	1.94	1.68	1.75	4.76	33.33	5.75	3.23		2.82		1.38	92.13
$65,001 to $70,000				.97	1.01	1.00	2.38		2.30					.41	92.54
$70,001 to $75,000	.84	.13	.23				2.38		2.30					.28	92.82
$75,001 to $100,000	5.04	1.43	1.92	5.83	3.70	4.25	7.14		6.90	4.84	11.11	5.63		3.04	95.86
$100,001 to $125,000		.26	.23	2.91	1.01	1.50	2.38	33.33	3.45	1.61		1.41		.83	96.69
$125,001 to $150,000		.39	.34	1.94	1.01	1.25	2.38		2.30					.69	97.38
$150,001 to $175,000	1.68		.23	.97	.34	.50	1.19		1.15	1.61		1.41		.41	97.79
$175,001 to $200,000	2.52	.39	.68		.34	.25	2.38		2.30					.62	98.41
$200,001 to $225,000		.26	.23	.97		.25								.21	98.62
$225,001 to $250,000		.13	.11											.07	98.69
$250,001 to $300,000	.84	.13	.23		.34	.25	1.19		1.15	1.61		1.41		.35	99.03
$300,001 to $350,000		.13	.11	.97		.25	1.19		1.15					.21	99.24
$350,001 to $400,000					.34	.25								.07	99.31
$400,001 to $450,000	.84	.13	.23	.97		.25							33.33	.28	99.59
$450,001 to $500,000		.13	.11	.97		.25								.14	99.72
Over $500,000	.84		.11		1.01	.75								.28	100.00
Totals by type of store and class of service [2]	99.98	99.98	100.02	100.00	99.99	100.00	99.96	99.99	100.02	99.99	99.99	100.02	99.99	100.01	
Percentage of grand total	8.22	53.04	61.26	7.11	20.51	27.62	5.80	.21	6.01	4.28	.62	4.90	.21	100.00	
Average annual sales per store	$43,294	$20,795	$23,814	$45,070	$39,359	$40,829	$56,732	$57,084	$56,744	$40,093	$34,445	$39,377	$172,050	$31,563	

[1] Cumulative total percentages are obtained in each instance by dividing cumulative total numbers in Table 6 A by the total number 1448.
[2] The totals in this line would be 100.00 in each instance, except for fractional differences.

Since meat constitutes only a part of the trade of combination stores, it is not surprising that the average sales of meats in the combination stores are considerably smaller than in the straight meat markets, and that the percentage of combination stores with small sales is considerably larger than of straight meat markets. Of the combination stores, 48 per cent reported sales of meats of less than $15,000 and 75 per cent less than $25,000 per year. For a considerable number of stores of this type the annual sales of meat run as low as $800, meat in such instances particularly being carried as an accommodation to the grocery customers. Of straight meat markets, only 19 per cent reported sales of less than $15,000, and 46 per cent less than $25,000. Stalls in public markets show more tendency than any other type to uniformity in size, 65 per cent reporting annual sales between $20,000 and $45,000. (See Table 6.)

Comparative daily sales.—The percentage of each day's sales to the total weekly sales was reported by 524 stores of the various types. A marked uniformity in the distribution of the sales over the week is evidenced, with the exception of Saturday's sales, which constitute approximately one-third of the total weekly sales or two and one-half times the average for each of the other days. Stalls in public markets reported 37 per cent of their business on Saturday as compared with 29 per cent for meat sections in department stores. With this exception there was little difference among the various types of stores. (See Table 7.)

TABLE 7.—*Relation of each day's sales to total weekly sales*

Class of service and type of store	Number of stores	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Cash and carry stores	105	12.99	13.92	13.54	12.79	13.49	33.27
Service stores	419	13.11	13.72	13.27	13.75	13.56	32.59
Combination stores	137	13.02	13.65	12.96	13.18	14.02	33.17
Straight meat markets	333	13.07	13.90	13.68	13.99	13.18	32.18
Chain stores	16	13.50	14.04	13.87	12.28	13.96	32.35
Stalls in public markets	33	12.15	12.50	12.75	12.48	12.88	37.24
Meat sections in department stores	5	15.52	15.28	11.33	11.92	16.99	28.96
Total	524	13.08	13.77	13.34	13.51	13.54	32.76

RELATION OF NUMBER OF STORES TO POPULATION

The total number of retail meat stores found in the 33 urban districts, including all types of stores handling fresh meats either exclusively or in combination with groceries, was 3,504, an average of one store for every 821 inhabitants. (See Table 8.) On this basis the number of stores selling fresh meats in the urban districts of the entire country was approximately 66,000. Allowing for small dealers not found, probably not exceeding 5 per cent of the total, the number of stores in urban districts selling fresh meats during the entire year or nearly the entire year may be estimated roughly at 70,000.

The number of actual stores selling meats in the rural districts of eight counties was 137. Of these a considerable number were reported as selling only a very few sides of beef or carcasses of pork or limited quantities of beef cuts, and 32 were reported as selling during only a few months of the year. The remaining

105 stores average one for every 1,732 inhabitants. (See Table 22.) If it be assumed that this ratio is representative of rural districts of the entire country, the number of stores selling fresh meats in the rural districts was approximately 30,000. The division here used between urban and rural districts is that of the United States census, classing as urban all incorporated place of 2,500 inhabitants or more and as rural all such places with less than 2,500 inhabitants in addition to the open country.

TABLE 8.—*Relation of number of stores retailing fresh meats to population, 1920*

City	Population 1920	Number of stores	Inhabitants per store
Northeast section:			
Concord, N. H.	22,167	26	852.58
Franklin, N. H.	6,318	9	702.00
Lowell, Mass.	112,759	162	696.04
Hartford, Conn.	138,036	218	633.19
Binghamton, N. Y., and suburbs	88,190	90	979.89
Binghamton	66,800		
Union	3,303		
Endicott	9,500		
Johnson City	8,587		
Pittsburgh, Pa.	588,343	648	907.94
Central section:			
Terre Haute, Ind.	66,083	149	443.51
Eau Claire, Wis.	20,906	10	2,090.60
St. Paul, Minn.	234,698	181	1,296.67
Grand Forks, N. Dak.	14,010	10	1,401.00
Devils Lake, N. Dak.	5,140	3	1,713.33
Butte, Mont.	41,611	82	507.45
Des Moines, Iowa	126,468	193	655.27
Lincoln, Nebr., and suburbs	62,662	118	531.03
Lincoln	54,948		
Havelock	3,602		
University Place	4,112		
Springfield, Mo.	39,631	93	426.14
Amarillo, Tex.	15,494	20	774.70
Paris, Tex.	15,040	12	1,253.33
Southeast section:			
Lynchburg, Va.	30,070	23	1,307.39
Bowling Green, Ky.	9,638	27	356.96
Raleigh, N. C.	24,418	26	939.15
Winston-Salem, N. C.	48,395	49	987.65
Columbia, S. C.	37,524	30	1,250.80
Savannah, Ga.	83,252	168	495.55
Albany, Ga.	11,555	13	888,85
Birmingham, Ala.	178,806	371	481.96
Baton Rouge, La.	21,782	19	1,146.42
Pacific coast section:			
Portland, Oreg.	258,288	179	1,442.95
Los Angeles, Calif.	576,675	575	1,002.91
Total	2,877,959	3,504	821.34
New York City,[1] population (1920)	5,620,048		
Number of stores (1918):			
Gentile		3,894	
Kosher		1,797	
Total		5,691	
Number of inhabitants per store			987.53

[1] Data for New York City from a canvass by the Federal food board in 1918.

On the basis of these estimates the total number of stores in the entire country selling fresh meats during the entire year or substantially the entire year in 1920 was approximately 100,000. The additional number selling fresh meats for only two to six months of the year, ordinarily in the winter months and usually in connection with a small grocery or general store business conducted throughout the entire year, may be estimated roughly at 10,000. Since straight meat markets, including also stalls in public markets, were in general found to be less than one-third of the total in the urban districts and

less than one-fourth of the total in the rural districts, the number of straight meat markets in the entire country may be estimated as approximately 30,000. Since a considerable number of those who sell both meats and groceries are primarily meat dealers, it may be estimated that approximately 50,000 retail concerns in the entire country are primarily meat markets.

In view of the fact that among the cities canvassed the ratio of the number of meat stores to population was found in some instances to be twice or even three times as great as in other cities of substantially the same size, it will be understood that the foregoing estimates, based upon the number of retailing concerns in cities including 5.30 per cent of the total urban population and in rural districts including 0.35 per cent of the total rural population, should be regarded as merely a rough approximation. However, a comparison of the results of the canvass with data as to occupations from the census of 1920, furnishes some evidence of the accuracy of these estimates. For the census of 1920 the total number in the entire country reported as "butchers and meat dealers" was 122,105 and as "meat cutters" 22,884. Since for the census each person was classified under his principal occupation as reported by him, many persons selling fresh meats along with other merchandise were enumerated as retail dealers in "groceries," "produce and provisions," or "general stores." On the other hand, many of those reported as butchers and meat dealers were merely employees of dealers or were engaged in slaughtering rather than in selling at retail.

In the eight large cities canvassed the number of straight meat markets was approximately 25 per cent and the total number of concerns selling fresh meat at retail, both meat markets and combination stores, was approximately 70 per cent of the number of persons reporting their occupation to the census as butchers and meat dealers. (See Table 9.) In smaller cities the number of concerns selling fresh meats doubtless bears a higher percentage relation to the number reporting their occupation as butchers or meat dealers, since with smaller retail establishments there are not so many employees. If for the country as a whole the number of concerns selling fresh meats at retail be estimated as 80 per cent of the number reporting their occupation to the census as butchers and meat dealers, the total number of concerns selling fresh meats at retail is approximately 100,000, the total estimated on the basis of the canvass of representative districts.

Among cities of more than 100,000 population, Birmingham, Ala., Hartford, Conn., Des Moines, Iowa, and Lowell, Mass., with 482, 633, 655, and 696 inhabitants per store respectively, have the largest number of stores relative to population, whereas Portland, Oreg., and St. Paul, Minn., with 1,443 and 1,297 inhabitants per store, respectively, have the smallest number. Among some of the smaller places the contrast is even greater. The wide disparity is largely explainable by the comparative prevalence of straight meat markets and combination stores. Since the volume of meat sales for combination meat and grocery stores is comparatively low, it is not surprising that cities with a high percentage of establishments of this type retailing fresh meats have a larger number of stores relative to population than cities where straight meat markets and stalls in public markets prevail. (See Tables 1 and 8.)

TABLE 9.—*Number of retail meat dealers by cities and number of butchers and meat cutters reported to census of 1920*

City	Straight meat markets and stalls in public markets	Combination stores, chain stores, and department stores selling meat	Census of 1920	
			Butchers and meat dealers	Meat cutters
Lowell, Mass		162	102	40
Hartford, Conn	24	194	225	49
Pittsburgh, Pa	317	331	1,246	126
St. Paul, Minn	117	64	450	126
Des Moines, Iowa	31	162	143	92
Birmingham, Ala	33	338	170	54
Portland, Oreg	117	62	365	203
Los Angeles, Calif	270	305	902	364
Total	909	1,618	3,603	1,054
Total for the United States			122,105	22,884

PREVIOUS OCCUPATION AND EXPERIENCE OF DEALERS

In recent years the retailing of fresh meats has tended to assume a distinctly nonprofessional character. Of 2,301 retailers concerning whose previous occupation information was secured, 900, or 39 per cent, reported that they had always been engaged in some phase of the meat business; 521, or 23 per cent, that they had been previously engaged in the grocery trade; 162, or 7 per cent, in various lines of merchandise; 156, or 7 per cent, in farming or stock raising. The remainder were distributed over 88 other occupations varying in numbers from 1 to 83.

Of the retailers entering the meat business by the grocery route, only 43, or 8 per cent, were operating straight meat markets or stalls in public markets, and 472, or 91 per cent, had merely added meat to their grocery line. Of the operators of straight meat markets and stalls in public markets, 481, or 74 per cent, reported that they had always been in the meat business, while of the operators of combination meat and grocery stores 398, or 24 per cent, had been continuously connected with the meat trade. An examination of a number of reports from recent entrants into the field of retailing meats, or meats and groceries, indicates that the number starting combination meat and grocery stores as compared with straight meat markets was in the ratio of 12 to 1.

TABLE 10.—*Average number of years of experience in the retail meat business of owners or managers of stores*

Class of service and type of store	Number of retailers	Average years of experience
Cash-and-carry stores	747	10.86
Service stores	2,190	13.11
Combination stores	1,792	10.25
Straight meat markets	804	17.16
Chain stores	159	6.86
Stalls in public markets	176	19.81
Meat sections in department stores	6	14.00
Total	2,937	12.54

The average experience in the meat business of 2,937 retailers from whom information was secured was 12.54 years (Table 10). There are wide variations in the average experience of operators of the various types of stores. Operators of straight meat markets and stalls in public markets are men of unusually long experience. Of the 804 operators of straight meat markets, 410, or 51 per cent, had been in the meat business 20 years or longer; only 32, or not quite 4 per cent, were men of less than one year's experience. Of the operators of stalls in markets, 93, or 55 per cent, were men of 20 or more years of experience; only 5, or less than 3 per cent, had been in the meat business less than one year. On the other hand, only 325, or 18 per cent, of the operators of combination meat and grocery stores were men of 20 or more years of experience with meats, while 201, or 11 per cent, had had less than 1 year of such experience. These figures are merely corroborative of what is generally known concerning the development of the trade.

Germans and Scandinavians, representative of the older immigration and especially numerous by comparison in straight meat markets, are men of long experience in the meat business. The average total number of years of experience for these racial groups was found to be 24.78 and 22.75 years, respectively, as compared with 14.37 years for those of British nativity and 14.21 years for those of American birth. Representatives of the new immigration, the racial types found more largely by comparison in combination stores, are of less experience. (See Table 11.)

TABLE 11.—*Experience in meat business of dealers according to nationalities*

Nationality	Straight meat markets			Combination meat and grocery stores			All stores combined	
	Number reporting	Average number years at present location	Average total years in meat business	Number reporting	Average number years at present location	Average total years in meat business	Average number years at present location	Average total years in meat business
Germany	127	11.45	27.48	56	8.63	18.67	10.59	24.78
Sweden, Norway, Denmark	21	12.71	26.52	19	8.32	18.58	10.62	22.75
England, Ireland, Scotland	23	4.52	18.06	45	5.30	12.49	5.04	14.37
Native American	582	6.61	19.33	1,140	5.81	11.59	6.08	14.21
Austro-Hungary	32	5.72	17.47	99	5.41	10.36	5.49	12.10
Poland	35	5.55	21.34	78	4.27	7.66	4.67	11.90
Russia	70	5.81	16.98	172	3.85	8.94	4.42	11.27
Greece	2	1.75	12.50	45	5.93	8.61	5.75	8.78
Italy	22	4.82	9.09	195	4.58	7.22	4.60	7.41
Syria				44	3.57	6.10	3.57	6.10

NATIONALITIES AND RACES OF DEALERS

Although the canvass of only a limited number of cities and counties does not furnish indications of minute accuracy regarding nativity of all retail meat dealers, it is believed that the survey was comprehensive enough to be indicative of the general situation. Fairly complete information on this point was obtained in 15 cities and in 8 counties, these latter including 13 additional urban districts, making a total of 28 of the 33 urban districts included in the general canvass. The summary does not include chain stores and department stores, which are regularly conducted by a hired man-

ager, but is limited to the other types of stores where the owner regularly acts as manager. (See Table 12.)

TABLE 12.—*Male population 21 years of age and over and retail meat dealers, by race and nativity*

[8 completely canvassed large cities, 7 completely canvassed small cities, and 8 completely canvassed counties, including 10 urban districts.][1]

A. MALE POPULATION 21 YEARS OF AGE AND OVER, CENSUS OF 1920

Group	Total eight large cities		Total seven small cities		Total eight counties	
	Number	Per cent	Number	Per cent	Number	Per cent
Total all classes	729,218	100.00	82,772	100.00	131,732	100.00
Native white	459,642	63.03	58,743	70.97	98,201	74.55
Foreign-born white	212,795	29.18	11,125	13.44	22,705	17.24
England, Scotland, Ireland	39,305	5.39				
Germany	22,429	3.08				
Italy	21,566	2.96				
Norway, Sweden, Denmark	21,440	2.94				
Russia	21,263	2.92				
Poland	15,295	2.10				
Austria	9,208	1.26				
Greece	5,832	.80				
Syria	1,010	.14				
All other countries	55,447	7.60				
Negro	46,708	6.41	12,674	15.31	10,746	8.16
All other races	10,073	1.38	230	.28	80	.06

B. RETAIL MEAT DEALERS, 1920

Total reporting	2,251	100.00	403	100.00	404	100.00
Native white	1,074	47.71	306	75.93	302	74.75
Foreign-born white	1,138	50.56	78	19.35	96	23.76
England, Scotland, Ireland	54	2.40	19	4.71	3	.74
Germany	156	6.93	17	4.22	12	2.97
Italy	209	9.28	3	.74	9	2.23
Norway, Sweden, Denmark	32	1.42	3	.74	5	1.24
Russia and Poland	338	15.01			30	7.43
Austria	99	4.40	6	1.49	8	1.98
Greece	50	2.22				
Syria	27	1.20	17	4.22	1	.25
All other countries	173	7.69	13	3.23	28	6.93
Negro	30	1.33	19	4.71	6	1.49
All other races	9	.40				
Not reporting	276		29			

[1] The 8 large cities are Lowell, Mass., Hartford, Conn., Pittsburgh, Pa., St. Paul, Minn., Des Moines, Iowa, Birmingham, Ala., Portland, Oreg., and Los Angeles, Calif.
The 7 small cities are Terre Haute, Ind., Grand Forks, N. Dak., Butte, Mont., Springfield, Mo., Lynchburg, Va., Raleigh, N. C., and Winston-Salem, N. C.
The 8 counties are Merrimack, N. H., Broome, N. Y., Eau Claire, Wis., Lancaster, Nebr., Marion, Kans., Warren, Ky., Richland, S. C., and Ramsey, N. Dak.

Negroes engage in the meat trade in extremely small numbers in comparison with their total numbers in the population. In several of the northern cities no negro dealers were found. In Pittsburgh three dealers on a small scale were found, this being 0.53 per cent of the number reporting their nationality, whereas the negro element in the male population over 21 years of age was 7.79 per cent. In Winston-Salem, N. C., and Birmingham, Ala., negroes were found to be 12 per cent and 7 per cent, respectively, of the numbers of meat dealers, while their numbers in the adult male population were 44 per cent and 40 per cent, respectively. In Terre Haute the largest comparative number was found, the seven dealers there constituting 5 per cent of the total number of stores selling fresh meat in the city, while negroes constituted 6 per cent of the adult male population. The total sales of meats of these seven stores, however, were esti-

mated as $40,000 at the high prices of 1920, perhaps less than half of the meat consumed by the negro element in the population.

In the eight largest cities canvassed foreign-born meat dealers constituted 51 per cent of the total, whereas the foreign born in the male population over 21 years of age were 29 per cent. (See Table 12.) In Hartford the foreign-born element was the largest, 76 per cent of the number of dealers, while the foreign born in the adult male population was 44 per cent. In Lowell the foreign born among meat dealers was 62 per cent and in Pittsburgh 63 per cent. In Des Moines the percentage of foreign born among meat dealers was more than three times as high as among the adult male population and in Birmingham more than eight times as high. In Portland and Los Angeles foreign born were found to bear approximately the same relation to native born in the meat trade as in the total adult male population.

In the eight largest cities canvassed foreign born from Austria, Italy, Russia, Poland, and Greece were reported as approximately three times as numerous comparatively in the meat trade as in the adult male population. Germans were slightly more than twice as numerous, and native Americans, British, and Scandinavians were less numerous comparatively in the meat trade than in the adult male population. The small group of Syrians were reported as eight times as numerous comparatively in the meat trade as in the total adult male population. In cities with large sections inhabited by negroes it is noticeable that foreigners of the newer immigration conduct small retail shops in large numbers in such sections. In such instances, although the customers are poor and the meat of inferior quality, the prices charged usually show an excessive spread over current wholesale prices.

In the more rural districts the foreign-born in the meat trade are much less numerous comparatively than in the cities. In the 8 counties completely canvassed, those in the meat trade reported as foreign-born were 24 per cent, while the foreign-born element in the male population over 21 years of age was 17 per cent. As is to be expected, the comparative number of foreign-born in the meat trade was largest in the counties containing cities of considerable size and smallest in the more rural counties. The smaller number of foreign-born in the trade in rural communities is perhaps due partly to less readiness among the rural population to change from established commercial relationships, and partly to the fact that those of foreign birth do not find in rural communities sufficient numbers of their own racial groups to encourage them to enter the business.

Although accurate inquiry was not made regarding racial relationships other than as indicated by color and country of nativity, certain data collected incidentally indicate that the Hebrew race is engaged in the meat trade in numbers far greater than their proportionate numbers in the population. From the canvass of New York City in 1918 by the Federal food board, it appears that 32 per cent of the dealers in retail meats in that city were in the kosher trade. (See Table 8.) Moreover, of the dealers in the gentile or general meat trade in that city it is estimated that from one-third to one-half are Hebrew. Probably fully 60 per cent of all the dealers in New York City with 50 per cent of total sales are

of the Hebrew race. Among the 3,058 dealers who reported their nativity in the canvass of representative cities and rural districts, 237 were also reported as of the Hebrew race. The actual numbers were unquestionably larger, the 368 natives of Russia and Poland being predominantly Hebrew and considerable numbers of the native Americans and of those of other nativity being Hebrew. It is reasonably certain that as many as 10 per cent of all retail meat dealers in the country are of that race.

Within the foreign-born group, certain nationalities exhibit widely varying tendencies in their distribution among the types of stores. Natives of Germany, Great Britain, Sweden, Denmark, and Norway, in general the old immigration, are found operating straight

TABLE 13.—*Nationalities and races of owners or managers of stores retailing fresh meats* [1]

[15 completely canvassed cities and 8 counties (including 10 additional urban districts)]

Nationality	Class of service				Type of store				Total by nationalities and races		
	Service		Cash and carry		Combination stores		Straight meat markets		Number	Percentage of native or foreign born	Percentage of total
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent			
Native born:											
White	1,269	75.45	413	24.55	1,101	65.46	581	34.54	1,682	96.83	55.00
Negro	51	92.73	4	7.27	47	85.45	8	14.55	55	3.17	1.80
Total native born	1,320	75.99	417	24.01	1,148	66.09	589	33.91	1,737	100.00	56.80
Foreign born:											
Armenia	6	75.00	2	25.00	8	100.00			8	.61	.26
Austria	93	82.30	20	17.70	88	77.88	25	22.12	113	8.55	3.70
Belgium	2	100.00			1	50.00	1	50.00	2	.15	.07
Brazil	1	100.00			1	100.00			1	.08	.03
Canada	71	93.42	5	6.58	75	98.68	1	1.32	76	5.75	2.49
China	4	80.00	1	20.00	3	60.00	2	40.00	5	.38	.16
Czechoslovakia	25	92.59	2	7.41	21	77.78	6	22.22	27	2.04	.88
Denmark	15	83.33	3	16.67	8	44.44	10	55.56	18	1.36	.59
Holland	1	33.33	2	66.67	2	66.67	1	33.33	3	.23	.10
England	18	62.07	11	37.93	12	41.38	17	58.62	29	2.20	.95
France	7	46.67	8	53.33	5	33.33	10	66.67	15	1.14	.49
Germany	144	77.84	41	22.16	57	30.81	128	69.19	185	14.00	6.05
Greece	41	82.00	9	18.00	47	94.00	3	6.00	50	3.79	1.64
Hungary	20	90.91	2	9.09	14	63.64	8	36.36	22	1.67	.72
Ireland	25	86.21	4	13.79	25	86.21	4	13.79	29	2.20	.95
Italy	177	80.09	44	19.91	197	89.14	24	10.86	221	16.73	7.23
Japan	2	50.00	2	50.00	2	50.00	2	50.00	4	.30	.13
Jugoslavia	17	94.44	1	5.56	13	72.22	5	27.78	18	1.36	.59
Lithuania	15	88.24	2	11.76	17	100.00			17	1.29	.56
Mexico	3	60.00	2	40.00			5	100.00	5	.38	.16
Norway	6	100.00			2	33.33	4	66.67	6	.45	.20
Poland	76	87.36	11	12.64	65	74.71	22	25.29	87	6.59	2.84
Portugal	3	100.00			3	100.00			3	.23	.10
Rumania	4	40.00	6	60.00	4	40.00	6	60.00	10	.76	.33
Russia	230	81.85	51	18.15	187	66.55	94	33.45	281	21.27	9.19
Scotland	11	61.11	7	38.89	9	50.00	9	50.00	18	1.36	.59
Sweden	16	100.00			9	56.25	7	43.75	16	1.21	.52
Switzerland	6	100.00			2	33.33	4	66.67	6	.45	.20
Syria	42	93.33	3	6.67	44	97.78	1	2.22	45	3.41	1.47
Turkey			1	100.00	1	100.00			1	.08	.03
Total foreign born	1,081	81.83	240	18.17	922	69.80	399	30.20	1,321	[2]100.02	[3]43.22
Grand total	2,401	78.52	657	21.48	2,070	67.69	988	32.31	3,058		100.00

[1] Chain stores and department stores are not included in this table. Stalls in public markets are included with straight meat markets.

[2] Except for fractional differences, this total would be 100.00

[3] Except for fractional differences, this total would be 43.20.

meat markets in relatively large numbers. Among the nationalities generally considered as the new immigration a small percentage are operating straight meat markets. (See Table 13.) This condition is probably explainable chiefly on the basis of time, the earlier immigrants having arrived and entered the business when the straight meat market was the prevailing type. It is probably also in part explainable by difference in racial characteristics. Many of the newer immigrants, particularly of the commercial type, find it comparatively easy to establish and conduct small combination stores either in settlements of their own racial groups or in other districts where unpretentious and often insanitary establishments supply the local demand. With accumulation of capital and broader opportunity they expand their operations into larger concerns along commercial lines, although perhaps without the skill in the trade itself characteristic of less pretentious operators of straight meat markets. In several Pacific coast cities orientals have made rapid progress recently in establishing themselves in the trade. In other cities the trade seems to be passing very largely into the hands of the races of the recent immigration.

It is not to be understood that the foreign born, particularly the recent arrivals, are as large a factor in the total sales of meats at the present time as their numbers would indicate. In considerable measure they are engaged in operating small combination stores in districts inhabited largely by persons of their own race and nationality, and in such instances their average sales are inevitably less than those of dealers longer established. Their numbers are, however, an indication of the present tendency and their share in the total volume of business in the meat trade must be expected to increase with the length of time of their connection with it.

GRADES AND CLASSES OF BEEF HANDLED

Data regarding grades of beef handled by the different types and classes of stores were necessarily based on the personal concept and statements of dealers and others familiar with the trade, verified as far as practicable by inspection of stocks on hand when stores were visited by investigators and by comparison with data obtained from other reliable sources.

This information was obtained from 2,263 stores. (See Table 14.) The terms used to indicate grades are "good," "medium," and "common," effort being made in the canvass to use these terms with substantially the same significance as in the wholesale price quotations of the United States Department of Agriculture. Since the quantities of prime and choice beef are small, these grades were included with the good grade. The estimates of the average amount of sales of beef were: 21 per cent graded as good or higher, 60 per cent medium, and 19 per cent common. Figures based on records of slaughter indicate an average of 22 per cent of good, choice, or prime, 48 per cent of medium, and 30 per cent of common or lower grade. The differences are explained partly by the fact that the dealers made their estimates during the spring and early summer, when a higher grade of beef is prevalent on the markets, and partly perhaps by a tendency to report a higher grade of meat than was actually handled.

Estimates obtained regarding classes of beef handled were 50 to 60 per cent from steers, the remainder being principally from cows and heifers in approximately equal ratios. This is a lower ratio for cows than the estimated annual slaughter, due in part perhaps to the lower slaughter of cows in the spring and summer, when these estimates were obtained, but principally perhaps to the tendency of dealers to report steer beef more largely than their trade warranted.

Cash-and-carry stores and service stores reported handling approximately the same percentages of medium-grade beef, roughly somewhat less than 60 per cent. Cash-and-carry stores reported a much larger percentage of good grade and a much smaller percentage of common grade than service stores. Cash-and-carry stores also reported a higher percentage of steer beef as compared with cow beef than service stores. The high average percentage of common in the service stores is in part due to the low grade carried by the large number of small combination stores giving delivery service. However, the higher percentage of good meats in carry stores is perhaps in part due to the fact that sales are more largely by actual inspection of meats by customers.

A comparison of grades of beef carried by different types of stores indicate that straight meat markets and chain stores, both of which types reported approximately the same percentage of each grade, handle a greater percentage of good and medium and a smaller percentage of common grades than combination meat and grocery stores, and that straight meat markets handle a larger percentage of steers than combination meat and grocery stores. Stalls in public markets reported a much higher percentage of high-grade meats than even the straight meat markets generally. Many combination stores handle as high-grade meats and specialize as effectively as other types of stores; but the figures show that as a rule the types of stores that specialize in meats carry a better grade than those that specialize in other lines.

TABLE 14.—*Relationship of sales of various grades of fresh beef to total sales in stores of various classes and types* [1]

Class of service and type of store	Number canvassed	Grade handled		
		Good [2]	Medium	Common
		Per cent	*Per cent*	*Per cent*
Cash-and-carry stores	607	27.91	58.37	13.72
Service stores	1,656	15.85	58.28	25.87
Total stores	2,263	19.08	58.30	22.62
Combination meat and grocery stores	1,328	15.05	53.51	31.44
Straight meat markets	618	23.00	66.48	10.52
Chain stores	158	22.85	66.18	10.97
Stalls in public markets	153	33.03	59.42	7.55
Meat sections in department stores	6	54.17	38.33	7.50
Total	2,263	19.08	58.30	22.62
Percentage of sales [3]		20.87	59.95	19.18

[1] Compiled from statements made by each dealer as to the percentage each grade bore to his total sales.
[2] Including prime and choice.
[3] Based on average sales of 1,448 stores. (See Table 6.)

Estimates furnished by retail dealers indicate that almost 80 per cent ordinarily handled only one grade, while 20 per cent regularly handled mixed grades. (See Table 15.) Practically 50 per cent of the total number reported handling medium grade only, 14 per cent reported handling good, choice, or prime, and 16 per cent common. The handling of mixed grades seems to be more prevalent among cash-and-carry stores than among service stores. The practice of handling a single grade or more than one grade at a time is evidently determined largely by the demands of customers.

TABLE 15.—*Comparative number of stores handling only one grade or two or more grades of fresh beef*

Class of service and type of store	Number canvassed	Stores handling—			
		Good grade only [1]	Medium grade only	Common grade only	Good, medium, or common, mixed
		Per cent	*Per cent*	*Per cent*	*Per cent*
Cash-and-carry stores	607	18.29	43.49	8.07	30.15
Service stores	1,656	12.44	50.73	19.45	17.38
Total	2,263	14.03	48.78	16.39	20.80
Combination meat and grocery stores	1,328	11.59	45.64	25.15	17.62
Straight meat markets	618	16.18	55.66	5.02	23.14
Chain stores	158	13.92	50.63	3.26	32.29
Stalls in public markets	153	26.15	47.72	0.65	25.48
Meat sections in department stores	6	16.67	16.67		66.67
Total	2,263	14.03	48.78	16.39	20.80

[1] Including prime and choice.

The relation of classes and grades of beef handled to the retailer's gross margin and to his net profits is of interest. (Table 16.) Of 55 stores somewhat above the average in size, for which information regarding profits as well as classes and grades of beef handled was obtainable, the 25 stores with a range of retailer's gross margin from 19 to 29 per cent on sales handled more cows and less steers than the 30 stores with gross margin ranging from 8 to 19 per cent. As to grades, the stores with the greater gross margin handled less choice and good and more medium and common than the stores with the smaller margin.

From these data it appears that stores handling lower grades of beef sell at a greater percentage of margin over cost prices than those handling higher grades. This conclusion confirms observations made in the trade during the canvass that beef of a lower grade sells at excessive retail prices as compared with current wholesale prices more frequently than that of better grade. In some extreme instances in stores carrying especially high-grade beef and giving a large amount of service, the price spread between wholesale and retail is much larger than in the ordinary trade, but as a general proposition the larger percentage of gross margin and the larger percentage of net profit, the latter particularly indicating a wider percentage of spread between wholesale and retail prices as compared with service rendered, seem to prevail among stores

that handle lower grades than among those that handle higher grades.

TABLE 16.—*Relation of gross margin and net profit to classes and grades of beef sold*

Number of stores	Per cent of sales			Per cent of total						
	Range of gross margin	Average gross margin	Average net profit	By classes of total beef sold			By grades of total beef sold			
				Steer	Heifer	Cow	Choice	Good	Medium	Common
30	8 to 19	14.77	0.27	70.00	16.67	13.33	6.67	43.50	40.17	9.96
25	19 to 29	22.52	4.79	61.24	21.76	17.00	.80	39.60	50.40	10.00

As has been noted, 20.8 per cent of the stores reported carrying more than one grade of beef. (See Table 15.) The average ratios in which the quantities of meats in the various grades were reported as being sold in these stores were approximately 25 per cent good, 45 per cent medium, and 30 per cent common, corresponding roughly to the country's slaughter. These figures are approximate only and of interest chiefly with reference to the prevalence of the custom and its relation to the consumer. To the consumer it is of interest because of the greater readiness in shifting from a higher to a lower grade on a rising market and because of the possibility of selling a higher grade to one customer and a lower grade to another, with perhaps too little difference or even no difference in price.

The policy of lowering the grade of meats sold at a time of rising wholesale market and of restoring the former grade on a declining wholesale market, thereby furnishing meats to customers at prices more nearly uniform than would be possible if the same grade were maintained constantly, is followed by many dealers and is regarded with approval by persons of high business standards in the trade. The shifting of grades is somewhat easier to those dealers who usually carry more than one grade. Carrying more than one grade also enables an unscrupulous dealer to sell meat of a lower grade to a customer who is unskilled in judging meats at the same price as meat of a higher grade to a discriminating customer.

The chief difficulties in bringing about the exercise of true consumptive demand and in dealing with the evils of misrepresentation, deceptive advertising, and substitutions are the absence of a uniform standard of classes and grades of meat, recognized by all wholesalers, retailers, and consumers alike, and the lack of ability of consumers to select meats on the basis of grade and quality. The possibilities of substitution of inferior for better grades readily appear from the fact that the difference in wholesale prices between two successive grades, as good and medium steers, medium and common steers, or medium and common cows, is likely to be as great as 10 to 20 per cent, and that meat of a lower class and grade may seem to the unskilled buyer the same in quality as that of a higher class and grade, although its actual value may be 30 or 40 per cent less. (See Table 17.)

TABLE 17.—*Average spread between wholesale prices of beef of various classes and grades in Chicago, Ill., 1920*

[Compiled from Market Reporter]

Class and grade of beef	Spread in prices per 100 pounds	Class and grade of beef	Spread in prices per 100 pounds
Between—		Between—	
Good and medium cows	$1.57	Medium steers and medium cows	$3.72
Medium and common cows	1.67	Good steers and good cows	5.63
Common steers and common cows	2.64	Good and common steers	6.34
Medium steers and common steers	2.85	Good steers and common cows	8.88
Good and common cows	3.25	High good steers and low common cows	10.42
Good and medium steers	3.45		

RELATIVE DEMAND FOR CARCASSES OR SIDES AND FOR CUTS OF FRESH BEEF

The small retailer often finds that the demands of his customers are not sufficient to consume entire carcasses or sides of beef before deterioration, so he must purchase in cuts only such amounts as he has facilities for preserving until they can be sold. Moreover, in well-to-do sections, and in other sections in times of prosperity, the prevalent retail demand is for choice cuts, such as loin steaks and rib roasts. Separating sides into wholesale cuts entails expense on the part of the wholesaler to cover cutting, handling, selling, and delivery. It also renders difficult the disposal of undesirable cuts and often means sale at unwarranted sacrifice. The retailer purchasing preferred cuts must pay prices that will at least reimburse the wholesaler for the expense and losses involved. By their demands for preferred cuts, consumers involve retailers in an excessive cost that is necessarily reflected in higher retail prices.

Since no records of the proportions of fresh meat purchased in the side or carcass or in cuts were available, conclusions are based on estimates and statements of dealers operating 430 large and medium-sized retail stores in the cities canvassed. The estimates indicate that of these larger concerns about 25 per cent purchase all their fresh beef in the whole side or carcass, about 50 per cent additional purchase beef both in sides and in cuts, and the remaining 25 per cent purchase cuts only. Of the dealers who purchase sides, practically two-thirds also purchase cuts, 75 per cent of their purchases being sides and 25 per cent cuts. If data for all stores, including the smaller stores, were available, they would unquestionably show much larger comparative numbers purchasing cuts. Department stores, stalls in public markets, chain stores, and straight meat markets, in the order named, purchase more of their beef in the carcass than do combination meat and grocery stores. The ability to use entire sides is determined partly by volume of business and partly by skill of operatives in meat cutting.

METHODS AND EXTENT OF ADVERTISING

Meat dealers as a class are not extensive advertisers, although there are conspicuous exceptions in some individual shops and types of stores. Methods and extent of advertising employed by retailers were ascertained in 2,679 stores in the urban districts canvassed. The prevailing practices of the various types of stores should not be con-

fused with the volume or cost of advertising. The percentage that the cost of advertising bears to total sales may differ materially from the percentage of stores advertising. When considering cost, the volume of sales and the amount and class of advertising are determining factors, whereas the prevalence of the practice as discussed in this section is based entirely on the number of stores. (In Table 28 and Figure 5 are found data on the percentage relationship of cost of advertising to total sales in stores of various types and sizes.)

Of the various media used by retailers in advertising fresh meats, by far the most important and extensively used are newspapers and handbills. In the urban districts canvassed, of the 29 per cent of the stores that advertised, 13 per cent advertised in newspapers and 5 per cent used handbills. About 16 per cent of the retailers used other media of minor importance, such as placards, programs, and lantern slides, which are inextensively employed at irregular intervals, either as the sole means of advertising or in addition to the use of newspapers and handbills. (See Table 18.) Newspapers afford the most effective method of advertising for transient and cash trade drawn from considerable distances, particularly for large concerns or chain systems; and handbills are most effective for reaching the neighboring trade, particularly for concerns small in size in relation to the total population of the city.

Newspapers were employed by 20 per cent of the cash-and-carry stores and by 10 per cent of the service stores, and handbills were used by 8 per cent of the former and 4 per cent of the latter. Miscellaneous media were used by 17 per cent of the cash-and-carry stores and 15 per cent of the service stores. Newspaper advertising is more than twice as popular as handbills with cash-and-carry stores and almost three times as popular with dealers operating service stores. Chain stores and stalls in public markets make use of newspaper advertising far more than any other medium. With straight meat markets and combination meat and grocery stores such miscellaneous media as lantern slides, placards, and programs are more popular.

TABLE 18.—*Practices of stores with reference to advertising*

Class of service and type of store	Number of stores	Percentage of stores advertising	Percentage of stores employing—[1]		
			Newspapers	Handbills	Other methods
Cash-and-carry stores	714	39.07	20.31	8.26	16.67
Service stores	1,965	25.24	9.97	3.61	15.11
Total	2,679	28.93	12.73	4.85	15.53
Combination stores	1,632	23.35	7.72	3.92	16.24
Straight meat markets	769	28.87	9.23	6.24	18.08
Chain stores	111	82.88	66.67	11.71	6.31
Stalls in public markets	161	47.83	42.24	2.48	3.11
Meat sections in department stores	6	50.00	33.33	16.67	----------
Total	2,679	28.93	12.73	4.85	15.53

[1] In most groups the sum of the percentages of stores employing the various methods exceeds the percentage of stores advertising, because some employ more than one method.

The practice of advertising is more extensive among cash-and-carry stores than among service stores, because the former are more generally patronized by transient customers who are more likely to be influenced by advertisements. When credit is extended or delivery service maintained, the trade is more permanent.

Chain stores advertise more generally than any other type. (See Table 18.) Chain systems find advertising in newspapers more profitable than individual stores, because a single advertisement of a chain system draws attention to all the stores of the system. It is only the exceptionally large downtown individual market competing for transient trade that finds newspaper advertising profitable in somewhat the same degree as the chain system.

Deceptive advertising of meats is more prevalent than that of most food products. Since the average customer is unskilled in judging the quality of meat and standard brands are less possible in fresh meats than in many less perishable products, deceptive advertising is especially easy in the meat trade. Official standardization of classes and grades and education of consumers regarding the fundamental characteristics of each would render deceptive advertising less effective. It was a matter of general observation during the canvass of the trade that the most extensive advertising is done by shops handling medium and common grades of beef. Unless the consumer is fully qualified to judge the quality of meat, his best assurance of securing the grade and quality represented is the personal integrity and reliability of the dealers that he patronizes.

The practice of displaying retail prices of fresh meat is not general either by displaying prices by means of tags on the meat or descriptive signs or placards posted in conspicuous places in or about the stores. Among 2,830 stores in representative cities, only 19 per cent reported that they displayed prices regularly. (See Table 19.) Cash-and-carry stores use price tags more generally than service stores, since these tags are effective in attracting transient trade, and are helpful to personal shoppers. Service stores depend more generally upon their regular customers, many of whom order meats by telephone. Of the cash-and-carry stores 37 per cent, and of the service stores only 13 per cent were found to display prices. The practice of displaying prices is far more prevalent among chain stores than individual, 71 per cent of them making use of price tags, in most instances as a part of the well-defined plan under which these stores are operated.

In larger stores where meat is cut in advance of sale, the practice of displaying prices on the meat is helpful to customers, since it enables them to associate the price with the particular cut or grade. It conserves the time of the salesman and enables purchasers to make more satisfactory selections. In small stores where meats are not cut in advance and in some large shops where the trade requires meat cut to order, satisfactory display of prices is more difficult. The general display of prices on windows, blackboards, and placards not directly associated with the meats described means little to the purchaser. Where conditions permit, the most complete display and the most direct association of prices with each cut and grade of meat are commendable.

TABLE 19.—*Comparative numbers of stores displaying prices of fresh meats*

Class of service and type of store	Number of stores	Stores displaying prices	Stores not displaying prices
		Per cent	*Per cent*
Cash-and-carry stores	687	37.41	62.59
Service stores	2,143	12.83	87.17
Total	2,830	18.80	81.20
Combination meat and grocery stores	1,792	13.78	86.22
Straight meat markets	647	15.46	84.54
Chain stores	217	70.97	29.03
Stalls in public markets	165	18.18	81.82
Meat sections in department stores	9	11.11	88.89
Total	2,830	18.80	81.20

SANITARY CONDITIONS AND REGULATIONS AFFECTING RETAIL MEAT TRADE

It is generally recognized that the slaughtering of animals and the retailing of fresh meats is a proper subject for regulation to safeguard the public from unclean, diseased, and unwholesome meat. The sanitary provisions of State statutes and of city ordinances applying to establishments where animals are slaughtered and fresh meat is sold are generally inadequate in provision for enforcement. Even when sufficient authority exists, city inspection of slaughterhouses, of dressed meat, and of retail stores handling meat is usually lax and inadequate, because of insufficient funds or incompetence or indifference of inspectors. In some cities, operators of slaughterhouses and of small stores report that they have never been inspected for sanitation. It was found, during the canvass of the trade, that city officials responsible for the inspection of establishments retailing fresh meats in several instances had less than half of the total number on their list for inspection.

SANITARY CONDITIONS AT POINT OF SLAUGHTER

In so far as inspection of animals and meat at slaughterhouses and packing plants is concerned, the health of the public is well protected by Federal regulations, if the dressed meat is to be shipped in interstate commerce. The public health is not so well protected against locally-slaughtered diseased meats not handled in interstate commerce, since most of the meat slaughtered outside of Federal control receives no adequate inspection. Federal inspection statistics show that considerable numbers of animals slaughtered are affected with some disease or some condition in such degree as to require their condemnation in whole or in part. The large slaughtering establishments at points where Government inspection is maintained seek to avoid losses by condemnation, by exercising great care in the purchase of animals, accepting only those that appear to be sound and healthy. This reduces losses at such establishments, but tends to divert animals of doubtful soundness to establishments without inspection. With increasing knowledge of the frequency with which disease occurs in food animals, the question of what becomes of the meats and products from the diseased

and unfit animals assumes greater hygienic importance and frequently results in a distinct preference for Federally-inspected meats.

The most prevalent defect existing in local regulations is failure to provide for continuous inspection at all local slaughtering establishments. Often the inspector is not required to be present and to inspect each animal before slaughter, and every carcass at the time of slaughter and before any portion is removed or offered for sale. Often he is called upon to inspect only when the diseased condition of a carcass is obvious to the slaughterer or dealer who may or may not be qualified to detect disease. In localities where complete and continuous local inspection is not maintained there is lack of proper protection for the consumer. Even though he may understand the necessity for inspection he will find difficulty in safeguarding himself through purchase of Federally inspected meat since the marks of inspection do not usually appear on retail cuts.

Many of the small local slaughterhouses operated by individual butchers are not only insanitary but filthy. The typical small slaughterhouse is so constructed as to preclude the possibility of maintaining it in a sanitary manner. In a city of 50,000 inhabitants, in which 8 or 10 individually-operated slaughterhouses were furnishing a substantial part of the fresh meat supply in 1921, the strict enforcement of an ordinance making proper sanitary requirements resulted in the immediate closing of all but one, and in concentrating slaughter in this one plant where sanitary conditions were observed. It is believed that sanitary statutes and ordinances should prohibit the sale of meats from animals slaughtered under conditions that do not meet the sanitary requirements of the Federal Bureau of Animal Industry, and that they should require the same standards in regard to diseased conditions as are provided for Federal inspection. Adequate provision should also be made for the effective administration of such regulations.

SANITARY CONDITIONS IN RETAIL SHOPS

Of the 2,679 stores in 20 cities (see Table 20), concerning which the sanitary conditions were reported, 60 per cent were below the standard of "good." The term "good" is here used to represent conditions where the interests of the consuming public are protected in the matter of sanitation. It implies that the building where the meat is handled and sold is properly and adequately lighted, drained, plumbed, and ventilated, and is provided with proper doors and screens to protect the meat from dirt, dust, flies, and other sources of contamination; that the floors, side walls, ceilings, furniture, and shop equipment, including ice boxes, display cases, meat blocks, racks and shelves, choppers and grinders, saws, cleavers, and knives are kept clean; and that the clothing of operatives engaged in the handling of meat is reasonably clean. "Medium," "bad," and "filthy" are relative terms used to indicate in a general way the degree of departure from the standard of "good." Under sanitary conditions below the standard expressed by "good," there is danger to the consumer, and the value of rigid inspection usually provided earlier in the chain of distribution is greatly impaired.

Meat sections in department stores rank first in the matter of sanitation. Of the chain stores, stalls in public markets, straight meat markets, and combination meat and grocery stores, 63 per cent, 54 per cent, 42 per cent, and 36 per cent, respectively, were found to maintain "good" sanitary conditions. Of the cash-and-carry stores 59 per cent, as against 33 per cent of the service stores, were found to maintain sanitary conditions above medium.

Lack of equipment in many shops precludes conducting the business in a sanitary way. It is advisable, therefore, for municipal legislation to specify certain equipment for shops where fresh meat is retailed. As a minimum, adequate refrigerating facilities of standard construction, sanitary counters, and a sanitary meat block should be required. All shops retailing fresh meats should have side walls and ceilings so constructed that they can be easily kept clean, and impermeable floors of suitable material that can be flushed and washed clean with water.

The volume of fresh-meat sales of a considerable number of the combination meat and grocery stores does not warrant the purchase of even the minimum equipment. This fact, together with the indiscriminate handling of meats along with other commodities, accounts in large measure for the relatively low percentage of this type of store maintaining satisfactory sanitary conditions.

Common points of criticism, applicable to all types of stores in different degrees, are (1) insanitary condition of shop equipment, particularly ice boxes and receptacles for waste and refuse; (2) practice of holding slow-moving cuts too long without proper care; and (3) display of meats without protection. The Louisiana sanitary code, previously discussed (p. 9), undoubtedly intends to limit the number of stores relative to population throughout the State, but it is believed that its provisions have not so diminished competition as to make retail prices higher, and they have had a salutary effect upon sanitary conditions.

TABLE 20.—*Sanitary conditions of various types of stores*

[Twenty completely canvassed cities]

Class of service and type of stores	Number of stores	Good		Medium		Bad		Filthy	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Cash-and-carry stores	690	404	58.55	223	32.32	49	7.10	14	2.03
Service stores	1,989	657	33.03	905	45.50	388	19.51	39	1.96
Total	2,679	1,061	39.60	1,128	42.11	437	16.31	53	1.98
Combination stores	1,628	589	36.18	666	40.91	331	20.33	42	2.58
Straight meat markets	849	355	41.81	387	45.58	96	11.31	11	1.30
Chain stores	57	36	63.16	21	36.84				
Stalls in public markets	138	75	54.35	54	39.13	9	6.52		
Meat sections in department stores	7	6	85.71			1	14.29		
Total	2,679	1,061	39.60	1,128	42.11	437	16.31	53	1.98

RETAIL MEAT TRADE IN RURAL COMMUNITIES

Since 48.6 per cent of our population resides in the open country and villages of less than 2,500 inhabitants, consideration of the

meat trade in these districts is important. During recent years rural communities have become increasingly dependent upon commercial retail channels for their meat supply. Good roads, automobiles, and telephone service make it possible for the rural population to use the retail shop, in part at least, rather than to rely entirely upon killing and curing the family supply. In districts where the retail shop can not conveniently be reached, peddlers often supply the needs, and where livestock for slaughtering is available, meat clubs often constitute means for providing fresh meat, especially beef.

For studying the meat trade in rural communities, counties of widely varying type were selected. The counties convassed in detail were Merrimack County, N. H., Broome County, N. Y., Eau Claire County, Wis., Ramsey County, N. Dak., Lancaster County, Nebr., Marion County, Kans., Warren County, Ky., and Richland County, S. C. (See Table 22.) Further information regarding meat-wagon routes, peddlers, and meat clubs was secured from 787 replies to 1,683 questionnaires sent out to county agents, supplementing data secured by personal convass. The data secured are necessarily inadequate as a basis for drawing detailed conclusions regarding all sections of the country, but the survey reveals certain conditions existing and certain problems involved in the distribution of fresh meats in rural communities somewhat different from those prevalent in urban communities.

SOURCES OF SUPPLIES OF MEATS

There is still a substantial amount of local slaughter in rural communities by farmers for home use and by small retailers for sale to farmer and village customers. In the more thickly settled rural districts of the Northeast local slaughter consists principally of dairy stock, and a very large percentage of the fresh meat for the rural trade is obtained by local shipment from the branch houses of western packers. In the rural districts of the West, where meat animals are locally available, in some instances substantially all the fresh meat is of local slaughter, often because of cost of transportation. In districts remote from railways, the fresh meat supply is necessarily of local slaughter.

In the South the smaller amount of fresh meat consumed in rural districts furnishes still less encouragement to regular trade from centralized markets. Among the negro population in certain southern districts, the fresh-meat supply in the summer months is limited to two or three days at the end of the week. The rural meat dealer, whose shop is of the crudest, is usually engaged in some other occupation during the early days of the week. On Friday he obtains a supply of ice, slaughters an animal, and reserves for fresh-meat sale such portions as can be disposed of within the next two days. The remainder is "barbecued" and kept for a longer period, awaiting sale. In the winter months, fresh meats can be carried to better advantage and are sold to a considerable extent in general stores.

More cured meats than fresh meats are consumed in rural sections of the United States, whereas in urban sections the preponderance of consumption is in fresh meats. In the South, climatic conditions, the economic status of a large percentage of the inhabitants, and the

comparative difficulty of securing an adequate supply of fresh meat are factors causing larger consumption of cured meats. (See Table 21.)

TABLE 21.—*Comparative consumption of cured and fresh meats in rural and urban communities, 1917* [1]

Section	Cured meats	Fresh meats
The North:	*Per cent*	*Per cent*
Rural	57	43
Urban	23	77
The South:		
Rural	79	21
Urban	44	56
The West:		
Rural	49	51
Urban	18	82

[1] Based upon estimates secured in 1918 from 13,000 families giving meat consumption for the year 1917.

RETAIL STORES

The retail meat shop is extremely rare in rural sections of the South, the general store supplying fresh meats in some localities in the winter and less frequently in the summer. In the central and western sections rural meat dealers are somewhat more numerous, but the production of livestock on the farms and the colder climate make possible a considerable amount of farm slaughter of fresh meats for home consumption. In the Northeast, with greater density of population and lack of meat animals on the farms, the rural retail meat shop is found in greater numbers than in any other section of the country.

The prevailing type of store in rural districts is the combination meat and grocery store, which is often a general store, handling also dry goods and miscellaneous supplies. Of the 137 stores located in the rural districts of the eight counties canvassed, 74 per cent were of the combination or general-store type, and the remaining 26 per cent were straight meat markets. The practice of giving service—credit, or delivery, or both—is reported by 88 per cent of these stores. It is of interest to contrast these percentages with those of the same types and classes of stores in urban sections, where 61 per cent were of the combination type, and 74 per cent extended credit or delivery service.

Of the rural stores canvassed, 34 per cent advertised fresh meats, compared with 29 per cent of city stores. The amount of advertising seems to be determined largely by local conditions. Competition for farmer trade was keen among stores if more than one was located in a village and between stores of different villages in prosperous farming communities. In these communities the opportunity for influencing trade through advertising is of course greater than that of the ordinary small store in the city through the metropolitan newspaper. It is more comparable to the opportunity of the chain store or of the large city market advertising in metropolitan newspapers.

Because of the comparatively small volume of business, rural dealers purchase less of their meat in the carcass than do city dealers. The tendency to handle cuts increases with the ease with which supplies may be obtained. A larger percentage of dealers handle cuts in

the more densely populated rural sections of the Northeast, where wholesale distribution is effected by automobile routes, than in the more sparsely populated sections of the Middle West, where supplies are obtained only through refrigerator-car routes, express, or local slaughter.

In sections where meats are more generally purchased in the carcass, a large percentage of the rougher cuts of the lower grades of beef, pork spareribs, and cuts that would otherwise be converted into sausage are "barbecued," or cooked, before being sold. This method is used most extensively by retail dealers of the South. Meats are also barbecued in some stock-raising sections as a method of disposing of less desirable cuts, particularly of the fore quarter. The shrinkage is overcome, to a great extent, by recovering the juices and drippings and saturating the meat as it is sold to consumers.

The average annual fresh-meat sales of the rural combination meat and grocery stores were only $7,764, as 55 per cent had annual sales of less than $5,000 and 28 per cent less than $1,000. The average annual fresh-meat sales for stores of the same type in cities were more than three times as large. Straight meat markets in the small towns averaged $17,268, about two-fifths of the average annual sales of this class of shops in cities. (See Tables 6 and 23.) In some of the smaller markets the proprietor had another occupation to which he gave part time. Sales volume of meats in these small village grocery stores and even in the straight meat markets is not sufficient to justify an investment in shop equipment, such as the mechanical refrigerating systems, ice display cases, slicing machines, and power sausage grinders that characterize the modern shop and promote the sanitary and economical handling of meats.

TABLE 22.—*Relation of number of stores retailing fresh meats to urban and rural population*

[Eight completely canvassed counties, 1920]

County	Cities (urban districts) included	Urban district				Rural district			
		Population	Total number of stores	Number operating entire year or nearly entire year	Population per store	Population	Total number of stores	Number operating entire year or nearly entire year	Population per store
Merrimack, N. H.	Concord, Franklin	28,485	35	35	814	23,285	32	22	1,038
Broome, N. Y.	Binghamton, Union, Endicott, Johnson City.	88,190	90	90	980	25,420	27	13	1,955
Eau Claire, Wis.	Eau Claire	20,906	10	10	2,091	14,865	6	6	2,478
Ramsey, N. Dak.	Devils Lake	5,140	3	3	1,733	10,287	11	11	935
Lancaster, Nebr.	Lincoln, Havelock, University Place.	62,662	118	118	531	23,240	23	23	1,010
Marion, Kans.						22,923	21	20	1,146
Warren, Ky.	Bowling Green	9,638	27	21	459	21,220	6	4	5,305
Richland, S. C.	Columbia	37,524	40	28	1,340	40,598	11	6	6,766
Total and average.		252,545	313	305	828	181,838	137	105	1,732

TABLE 23.—*Comparative and average volume of sales of stores by types and classes*

[Rural districts of 8 completely canvassed counties, 1920]

Annual meat sales	Combination meat and grocery stores						Straight meat markets						Total by volume of sales	
	Cash-and-carry		Service		Total		Cash-and-carry		Service		Total			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Not over $1,000	3	25.00	25	28.09	28	27.72							28	20.44
$1,001 to $2,000	1	8.33	7	7.87	8	7.92							8	5.84
$2,001 to $3,000	2	16.67	7	7.87	9	8.91							9	6.57
$3,001 to $4,000	1	8.33	5	5.62	6	5.94			1	3.23	1	2.78	7	5.11
$4,001 to $5,000	1	8.33	4	4.49	5	4.95			1	3.23	1	2.78	6	4.38
$5,001 to $10,000	2	16.67	18	20.22	20	19.80	2	40.00	11	35.48	13	36.11	33	24.09
$10,001 to $15,000	1	8.33	9	10.11	10	9.90	1	20.00	7	22.58	8	22.22	18	13.14
$15,001 to $20,000	1	8.33	3	3.37	4	3.96	1	20.00	2	6.45	3	8.33	7	5.11
$20,001 to $25,000			2	2.25	2	1.98			2	6.45	2	5.56	4	2.92
$25,001 to $30,000			5	5.62	5	4.95	1	20.00	3	9.68	4	11.11	9	6.57
$30,001 to $35,000														
$35,001 to $40,000			1	1.12	1	.99							1	.73
$40,001 to $45,000									1	3.23	1	2.78	1	.73
$45,001 to $50,000									1	3.23	1	2.78	1	.73
$50,001 to $55,000			1	1.12	1	.99							1	.73
$55,001 to $60,000			1	1.12	1	.99			1	3.23	1	2.78	2	1.46
$60,001 to $65,000														
$65,001 to $70,000														
$70,001 to $75,000									1	3.23	1	2.78	1	.73
$75,001 to $100,000			1	1.12	1	.99							1	.73
Totals by type of store and class of service[1]	12	99.99	89	99.99	101	99.99	5	100.00	5	100.02	36	100.01	137	100.01
Percentage of grand total	8.76		64.96		73.72		3.65		22.63		26.28		100.00	
Average annual sales per store	$3,950		$8,279		$7,764		$13,500		$17,900		$17,268		$10,138	

[1] The percentage totals would be 100.00 in each instance, except for fractional differences.

Retailers of fresh meats in the smaller towns and villages operate under hardships and are subject to hazards not general in urban trade. For instance: (1) Many of the village people kill their own meat during the winter or buy dressed meat from farmers, thus decreasing sales of local retailers when operating expenses are at the minimum; (2) farmers buy only a small percentage of their meat from retail butcher shops, except during the harvest and threshing season, which results in a relatively heavy trade at a time when expenses of operation are at the maximum; (3) the high cost and difficulty of securing ice constitute a serious handicap: (4) there is no suitable opportunity to realize upon the shop waste and trimmings; (5) local rural retailers are subject to occasional glutting of the market with fresh meats by farmers and other peddlers.

MEAT-WAGON ROUTES

In some sections, particularly in the Northeastern States, rural communities are served by meat-wagon routes operated by retailers in connection with their stores. Many of the routes are operated only from April to November over a fixed route and on certain days.

This service is a special convenience to farmers during harvest time and to summer resorts.

Since a route is usually operated only once or twice a week, the sales per customer average considerably larger than sales per customer in the shop. In general, the quality and price of the meat sold on the route is the same as that sold in the retailers' shop, but it is often possible for the retailer to dispose of rougher cuts that are less in demand in the villages. The additional expense of operating routes is comparatively small, since the equipment consists of a horse and wagon with a canvas-covered box for the meats, which may or may not be iced. Routes served by horse-drawn vehicles cover an average of 15 to 20 miles a day. Auto trucks, sometimes used, often cover an average of 60 miles a day. Where there is sufficient demand, this extension of the distance covered is more than proportionately profitable.

MEAT PEDDLERS

Irregularity in the operations of meat peddlers makes it impossible to determine the relative importance of this method of retaliing fresh meats, but both farmer and professional peddlers are important factors in the trade of many localities. Lack of a convenient market and the possibility of a larger return for their surplus livestock frequently lead farmers to dispose of it by this method.

Peddling of fresh meats by farmers is chiefly confined to the fall and winter. Commercial peddlers usually operate during the entire year, but are likely to be more active in the summer, when summer residents abound in the Northeast and when farmers in the West are unable to slaughter because of the busy season and unfavorable weather.

Farm peddlers usually slaughter only their own livestock, although a class known as butcher-farmers sometimes purchase stock from neighbors. Since farmers have a personal pride in the animals they slaughter, there is little likelihood of using stock obviously diseased. On the other hand, the commercial peddler usually purchases animals wherever he finds them, slaughters them where they are purchased, and retails the meat the next day on his route. There is, therefore, more likelihood that commercial peddlers will slaughter animals that are in poor and diseased condition. The personal reliability and integrity of such retailers is therefore the only reliance of customers and is often a sufficient guaranty of quality and sanitary handling. The cattle are slaughtered under essentially crude farm conditions, usually beneath a tree or in a barn. This method is often insanitary, but it is undoubtedly preferable to slaughtering done in small, uninspected slaughterhouses, with danger of contamination from decaying offal.

Oil fields and mining territory, where the population is industrial and comparatively dense but too scattered to warrant the establishment of a retail shop, afford a good outlet for meat peddlers. In many instances they are the only source from which residents of the country and small villages can procure fresh meats.

The indications are that there was a comparative increase in the peddling of fresh meats, especially by farmers, during 1921, because of the low prices of livestock and high transportation rates. On

the other hand, in some of the more thickly settled rural sections meat peddling has decreased, because the improvement of roads and the widespread use of the automobile have favored the development of the retail shop in towns and villages by making possible a larger patronage.

Competition of peddlers is often a disturbing element in the business of retail shops. Because peddlers frequently slaughter animals before being sure they can sell the meat, the local market is often glutted, sometimes compelling a reduction in price by both peddler and dealer to a point below actual cost. An additional handicap is placed upon local retailers where farmers, without license or payment of fees, are permitted to sell fresh meats on the streets of a town where the local retailer pays a license fee. Most cities, towns, and villages do not assess the farmer peddler, and a number of States have laws rendering it impossible for any incorporated city, town, or village to collect a tax or license fee from farmers engaged in peddling their own products.

MEAT CLUBS

Meat clubs, or "beef rings," are local organizations of farmers for the purpose of supplying their members with fresh meat, particularly in the summer months. The meat club is an extension of the prevalent country custom of exchange at butchering time. It consists of a larger group, for slaughtering fresh meat and distributing it to members in quantities that can be consumed while fresh by the average family. The number of families in each club usually varies between 16 and 40.

To obtain information regarding the prevalence of these clubs, a questionnaire was sent to 1,683 county agents and a more thorough study was made of certain districts. In 787 replies received from county agents, clubs were reported in 32 counties and none in the remaining counties. Page County, Iowa, reported approximately 20 clubs, Montgomery County 20, and Shelby County 40; Warren County, Ky., 15; Maury County, Tenn., 4; Travis County, Tex., 12, Colorado County 15, and Burleson County 6. In the remaining 24 counties in various States in which they were reported to exist, the number varied from 1 to 3 in each county. The total number reported was 165. The total number in the entire country with a continued existence of at least two or three years probably does not exceed 300. In some sections an increase in the last five years was reported, but usually there was no change.

OPERATING EXPENSES AND PROFITS

COLLECTION OF DATA FROM THE TRADE

For this study of operating expenses and profits in the retail meat trade, the data were obtained by examination of the accounting records of retail dealers by a group of accountants. The number of dealers with adequate accounting records was extremely small. Concerns whose operations are so large that it is entirely impossible for the owner or manager to keep in touch with the details of the business, as chain-store systems and individual concerns with turnover of perhaps $100,000 per year or more, must keep fairly complete

records: but among those with sales of $50,000 per year or less and among most of those with sales of $50,000 to $100,000, the records were usually found to be so crude as to give no accurate indication of operating expenses and profits and of the true state of the business.

For the purpose of obtaining data from a sufficient number of dealers to be fairly representative, inquiry was made of all dealers in the complete personal canvass of 28 cities and 5 suburban municipalities, a total of 33 urban districts, and the rural districts of 8 counties. A partial canvass was made of 6 additional large cities (see fig. 1), primarily to locate dealers with adequate accounting records. All available complete records of retail straight meat markets were utilized and incomplete records were utilized whenever it was possible to complete them by means of data from check stubs and other memoranda. It is believed that the results are more representative of the trade than could be obtained by any system of voluntary reports, even if voluntary reports could be obtained. (See Tables 24 and 45.)

Two hundred and thirty sets of accounting records of individual meat markets for 1919 were obtained, giving cost of merchandise sold, sales, and the more important items of operating expense individually. The total sales of these straight meat markets were $26,613,266.14. (Table 25.) Most of the straight meat markets sold meats exclusively, but some sold as much as 5 to 10 per cent of butter, eggs, cheese, vegetables, and other groceries. It is believed that in no instance were sales other than meats as high as 20 per cent, and very few, if any, were as high as 15 per cent.

Of these meat markets, 206 were strictly retail, their trade being almost entirely with family customers, 73 carry or nondelivery stores with total sales of $5,625,590.34 and 133 delivery stores with sales of $12,792,085.16. In the remaining 24 stores with total sales of $8,195,590.64, the trade was with hotels, restaurants, commissaries of railroads, and other large users to the extent of from 30 to 80 per cent of their total business. These semiwholesale concerns have operating expenses relatively much lower than those with substantially all family trade, and accordingly they have been grouped separately.

In New England and in certain cities where numbers of straight meat markets were small as compared with combination stores, complete accounting records were obtained from a number of combination stores. The total sales for 1919 of the 55 combination stores for which detailed comparable data were obtained were $11,360,831.86.

Fifteen chain store systems (Table 26) with a total of 266 branches and total sales of meats of $19,143,364.10 furnished records which could be analyzed with uniformity and in substantially the same detail as those of the individual meat markets. For chain systems (Table 27) selling both meats and groceries with 81 branches selling meats of a total amount of $4,050,628.62, and 221 branches selling groceries of a total amount of $8,759,965.31, operating expenses were obtained for groceries as well as for meats, giving a comparison of operating expenses of meats and groceries within the same concerns.

The gross margin or spread between wholesale and retail prices in meats and groceries were obtained in additional chain systems with 85 branches selling meats of a total amount of $1,618,900.07 and 108 branches selling groceries of a total amount of $11,852,218.98,

making a total amount of $5,669,528.69 sales of meats and $20,612,-184.29 sales of groceries on which the comparative gross margin is available. For several of these systems similar data are available for 1920 and 1921 as well as for 1919. (See Tables 27 and 38.)

In eight combination stores with total sales of meats of $3,239,-160.28 and total sales of groceries of $4,828,557.62, data were obtained for groceries separately, permitting comparisons of the gross margin for both meats and groceries in the same concerns. In several of these concerns similar data were obtained for 1920 and 1921 in addition to 1919. (See Tables 27 and 38.)

The total figures for individual concerns and chain systems in which a comparison of gross margin or spread between wholesale and retail prices can be made for 1919 include meat sales of a total amount of $8,908,688.97 and grocery sales of a total amount of $25,440,741.91. For smaller amounts the comparison can be made for 1920 and 1921. (See Tables 27 and 38.)

TABLE 24.—*Character of accounting records kept by retail meat dealers*

Type of store	Double entry		Single entry		Mere memoranda		None		Total reporting		Total number of stores
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	
Straight meat markets, including stalls in public markets	66	6.55	169	16.78	607	60.28	165	16.39	1,007	100	1,169
Combination meat and grocery stores	105	5.24	315	15.71	1,345	67.08	240	11.97	2,005	100	2,251

Table 24 reflects conditions obtaining in the early part of 1920. The total number of stores selling fresh meats found in the districts completely canvassed was 3,641, of which 3,504 were located in urban districts and 137 in rural districts. This number of 3,641 included 1,169 straight meat markets and stalls in public markets, 2,251 combination meat and grocery stores and general stores, 214 chain-store branches, and 7 meat sections in department stores. Information regarding accounting records kept was not obtained in four small southern cities with 59 straight meat markets and 5 combination stores, and information on this point was not reported from 103 straight meat markets and 241 combination stores in the other districts completely canvassed. Probably very few of these had complete records.

TABLE 25.—*Volume of operations of individual concerns furnishing complete accounting data, 1919*

Type of store	Number of stores	Sales of meats	Sales of meats and groceries
Straight meat markets with family trade:			
Carry stores	73	$5,625,590.34	
Delivery stores	133	12,792,085.16	
Straight meat markets with family and restaurant trade	24	8,195,590.64	
Total straight meat markets	230	26,613,266.14	
Combination stores	55		$11,360,831.86

TABLE 26.—*Volume of operations of chain-store systems furnishing complete data regarding operations in meats, 1919*

Classification of systems	Number of systems	Total operations in meats		Operations in meats of branches operating throughout entire year	
		Number of stores	Sales	Number of stores	Sales
Carry systems in which meats constitute 90 to 100 per cent of sales	7	120	$12,232,541.74	102	$11,079,825.67
Carry systems in which groceries constitute a large percentage of sales, the accounting records for which are kept separate from the meats [1]	5	119	5,036,118.05	86	4,500,815.05
Total carry systems	12	239	17,268,659.79	188	15,580,640.72
Delivery systems (meats 90 to 100 per cent of sales)	3	27	1,874,704.31	27	1,874,704.31
Total chain systems	15	266	19,143,364.10	215	17,455,345.03

[1] In the five systems selling meats in connection with groceries, the total number of stores was 255, in 119 of which meats were sold. The total sales of groceries in these 255 stores were $15,143,862.61.

TABLE 27.—*Volume of operations of concerns furnishing data regarding both meats and groceries, 1919*

Type of store and character of data furnished	Operations in meats		Operations in groceries	
	Number of stores	Net sales	Number of stores	Net sales
Chain systems furnishing data regarding operating expenses in addition to cost of merchandise and sales	81	$4,050,628.62	221	$8,759,965.31
Additional chain systems furnishing data regarding cost of merchandise and sales	85	1,618,900.07	108	11,852,218.98
Individual concerns furnishing data regarding cost of merchandise and sales	8	3,239,160.28	8	4,828,557.62
Total of concerns showing retailers margin or spread between cost of merchandise and sales	----	8,908,688.97	----	25,440,741.91

CLASSIFICATION OF ACCOUNTS

That the data might be comparable, it was necessary to develop and adopt a standard classification of accounts and standard definitions of the terms to be used. A brief explanation of the classifications adopted and terms used is presented, as essential in using the information.

Gross sales of merchandise.—This account embraces all sales of merchandise, both cash and credit, including amounts realized for fats, bones, hides, containers, and other miscellaneous receipts, the sales of groceries and produce in the case of combination stores, and all merchandise taken for personal or family use. Where merchandise for personal use has been neither charged nor paid for, a careful estimate is made.

Net sales.—This account is gross sales less returns and allowances, such as return of merchandise or containers and allowance on merchandise not returned. In the few instances where trading stamps were given, their cost was deducted from gross sales as a trade dis-

count, instead of charging them to advertising as is sometimes done. Net sales is used as the common basis for comparing the operations of dealers, and for computing all percentages of profit and expense.

Cost of merchandise sold.—Cost of merchandise sold is found by adding purchases to the initial inventory of stock and subtracting the closing inventory from this sum. Freight, express, and cartage on incoming merchandise are included as a part of cost, and deduction is made for returns and allowances and for cash discounts taken for early payment of bills. Inventories are at billed cost, less depreciation and discount taken at time of purchase. In the fresh-meat trade, inventories are usually so small as to be almost negligible.

Gross margin.—This account is the total margin of the retailer, the difference between cost of merchandise sold and net sales. The term gross profit is more commonly used by accountants, but since from this item the expenses of the business must be paid and only a small part is actually profit, gross margin is preferred for this discussion.

Net profit.—Net profit is the balance remaining after payment of all expenses. It is found by subtracting the total of expenses as described below from gross margin. Since rent, interest on the investment, and a salary for the routine work of supervision are included in operating expenses, the net profit is the return for general capacity in management and for the risk involved. Even when this account shows a net loss, the proprietor usually has had a net income from the business, derived from the routine salary allowed, the interest on the investment involved, and the rent of the store space if he owned it.

Operating expenses.—Operating expenses include the obvious items of current expenditure, such as wages, wrappings, ice, taxes, depreciation on equipment through time and usage, fair compensation for services of the proprietor, rent for the store space whether owned or leased, and interest on the net investment. Where the work of the store is done entirely or in large part by the owner, for purposes of both logical analysis and of comparing and combining the data with those from other concerns where the work is done entirely or in large part by paid labor, an allowance must be made of fair compensation for the services of the proprietor and of any unpaid members of his family. For similar reasons, rent of the store space, whether leased or owned, and interest on the net investment, whether the capital be borrowed or owned, are included as a part of operating expenses.

In studies of operating expenses in merchandising on a large scale, it is often possible to divide total expenses into such groups as administrative or management, buying, and selling. In the retail meat trade, among the 40 per cent of straight meat markets operating as one-man shops, such a division would serve no purpose whatever. Even in substantially all concerns with annual sales less than $100,000, constituting perhaps 95 per cent of the total number of dealers and doing perhaps 75 or 80 per cent of the total business of the country, there would be much difficulty in making such a division. In individual concerns with annual sales of $100,000 or more, doing perhaps 15 or 20 per cent, and in chain-store systems, doing perhaps 5 per cent of the total meat business of the country, these functions

are more clearly separated and the division of operating expenses can be more advantageously made. (See Table 32.)

Salaries and wages.—In compiling the data it was found necessary to determine an equitable and uniform method for handling salaries of individual proprietors, members of partnerships, and officers of corporations, since the widest variations of policy were found in connection with accounts charged to salary expense. Basing the estimates on wages of meat-cutter salesmen and services required in shops of different volume of business, there has been allowed as salary to the manager-owner 8 per cent of the first $20,000 of annual net sales, 3 per cent of any additional amount up to $50,000, 1 per cent of any additional amount up to $100,000, and 0.5 per cent beyond $100,000. According to this scale, the salary of the manager-owner of a shop with sales of $20,000 is $1,600, for a shop with sales of $50,000 is $2,500, for sales of $100,000 is $3,000, and for sales of $200,000 is $3,500. By inquiry in the trade, these amounts were found to be approximately the salaries paid in 1919 for the routine work of management of shops of the sizes designated. In addition to these amounts, the business usually showed a net profit, which may be regarded as compensation for the general capacity of the owner in business management and for the risk involved.

Where members of the family assisted in the work without compensation an estimate has been made of the value of their services, and this amount has been included as wages. In partnerships, one salary has been allowed on the percentage basis and a meat-cutter's wage of $1,500 has been allowed for each additional partner.

Salaries of officers and stockholders of corporations were usually allowed as recorded in the books, but when the salaries fixed by a corporation seemed out of proportion sufficiently to indicate that they were not based entirely on services rendered and time devoted to the business, the salaries were revised in general conformity with the uniform scale.

Advertising.—Under this account are included the expenses of the usual forms of advertising, as newspapers, periodicals, hand bills, calendars, and novelties.

Wrappings.—Under this account are included such items as twine, paper, bags, boxes, cartons, skewers, and trays.

Refrigeration.—This account is charged with all expenses for ice and refrigeration, including, as far as obtainable, cost of operation of refrigerating machines. Where mechanical refrigeration is employed, it is usually impossible to separate the expense for power for the ice machine from other power and lighting costs.

Heat, light, and power.—This account is charged with costs of heating and lighting store, and for electric power used in operating slicing and grinding machines.

Telephone.—This account requires no explanation.

Rent.—This account is charged with all rentals paid for use of leased store buildings. Where store buildings were owned by the business, rent was estimated at prevailing rates.

Interest.—Interest as an element in cost or operating expenses has been the subject of much controversy, and there is considerable variance in practice. It is obvious that uniformity must be observed if comparisons are to be made. Accordingly, interest on capital borrowed for the business and an allowance of interest on capital owned

are combined and the total is included, as the item interest in this study, as a part of operating expenses, though any who desire may transfer it to net profit.

From actual figures and estimates of merchandise inventory, equipment, cash used in the business, accounts and notes receivable, and accounts and notes payable, a fairly accurate net investment could be determined. Only the productive assets were included in the investment figures; good will and investments or other assets not used in the business were excluded. A flat interest rate of 6 per cent for all localities for 1919 was adopted as sufficiently accurate.

Depreciation of store equipment.—A rate of 10 per cent is used for the annual depreciation charge, the amount written off for depreciation being based on cost orders so far as obtainable. (The rate used under delivery expense for auto delivery trucks and all motor vehicles is 20 per cent; for horses, harness, and wagons, 10 per cent.)

Repairs to store equipment.—This account is charged with cost of repairing machines and all store equipment. It includes sharpening of cutting tools and purchase of small tools, such as trimming knives and saw blades, which last only one or two years. Repairs to delivery equipment are included under Other Expense, and are separately considered under Other Delivery Expense.

Insurance.—To this account is charged insurance premiums of all kinds, except on buildings and delivery equipment. Insurance on delivery equipment such as auto trucks is included under Other Expense and is separately considered under Other Delivery Expense, while insurance on owned buildings is fully covered in the estimated rent.

Taxes.—This account includes all payments of taxes on stock, store equipment, all personal property used in the business, excepting taxes on delivery equipment, which are included under Other Expense and are separately considered under Other Delivery Expense. Licenses, occupation, and mercantile and Federal taxes (except income and excess-profit taxes) are included. Taxes on owned buildings or real estate used in the business are fully covered in the estimated rent. Income and excess-profit taxes are not included, since they are considered a part of the net profit.

Losses from bad debts.—This account is charged with outstanding accounts due from trade debtors which were reported as uncollectible.

Other expense.—Included in this account are all expenses not otherwise charged. All delivery expense other than wages is included and constitutes the principal cause of the difference in this account between carry and delivery stores. Other items of frequent occurrence are laundry, sales pads, office supplies, sawdust, rubbish disposal, dues and subscriptions, janitor service, car fares, and legal and accounting fees.

Delivery expense.—To this account are charged the various items concerned with the maintenance of delivery service, as wages of labor employed; hay, feed, and horse-shoeing; automobile licenses and supplies; repairs, taxes, insurance, and depreciation of delivery equipment; rent of stable and garage, whether owned or leased; and charges for express and contract delivery service. Delivery Expense is grouped under two principal divisions, Delivery Wages and Other Delivery Expense. In the analysis of the data, delivery wages

are also included in the general item of Salaries and Wages and other delivery expense is included in the general item of Other Expense.

The separation of delivery wages from other wages and the separation of other delivery expense from other expense is fairly clear in many instances, particularly among larger concerns. Among smaller concerns, the distinction is usually not so clear; but a determination of the probable expense of delivering is of so much importance to the trade that a careful estimate was made in all instances where records did not show the distinction, and the results were found to check fairly well with the returns from concerns where the distinction could be and was clearly maintained.

METHOD OF GROUPING STORES AND WEIGHTING RESULTS

The data have been summarized and analyzed in detail under several different methods of grouping. The more important of these groupings are (1) by size of stores, indicated by annual sales; (2) by classes of service performed, as delivery and nondelivery; (3) by character of trade, as straight meat markets and combination stores; (4) by types of organizations, as individual stores and chain-stores systems; and (5) by sections of the country.

The larger stores were found to have much better accounting records than the smaller ones, and the percentage of stores from which accounting data have been collected is much larger among those with large annual sales than among those with smaller sales. In consequence, a simple average either by number of stores or by total sales of the stores from which data are collected would not be fairly representative, and a system of weighting of the results has been worked out. By the complete canvass, the comparative numbers of smaller and larger stores were determined and the approximate comparative quantities of meats sold in larger stores and in smaller stores. It was found that, at the high prices prevailing in 1919 and 1920, of the total quantity of meats sold by individual retail shops approximately 20 per cent was sold by shops with annual sales of $25,000 or less, approximately 40 per cent by shops with annual sales between $25,001 and $50,000, approximately 20 per cent by shops with sales between $50,001 and $100,000, and approximately 20 per cent by shops with sales over $100,000. Accordingly, these percentages furnish a basis for weighting the results for individual markets by size of stores.

As between delivery and nondelivery service, the practice was found to vary considerably. In the South, delivery service is comparatively more prevalent than in the North, and no sufficiently complete accounting records for carry stores were found in the Southern cities canvassed. Small residence-district shops deliver more freely than larger concerns located in business sections. The residence-district shops usually compete in part at least on the basis of service rendered, and those in business districts usually compete almost entirely on the basis of prices. In general, the number of delivery stores and the total volume of sales of stores of this class seem to be roughly twice those of the carry stores, and a ratio of 2 to 1 was adopted in weighting the results.

Combination stores are more prevalent in the Northeast and Southeast, being almost universal in New England, whereas straight meat markets are of greater importance in the West. In the cities canvassed, the number of combination stores was approximately twice as great as the straight meat markets, but owing to the larger average volume of sales per store, the total volume of sales by all meat markets was approximately equal to the volume of sales by all combination stores. However, the combination stores did not keep complete separate records of meats and groceries, so reliance must be had upon the records of straight meat markets for operating expenses and profits. Data were obtained from a number of combination stores as supplementing the more significant information obtained from straight meat markets. Meat markets that carry small quantities of canned goods and dairy products were included, but none were included whose sales of other merchandise were as large as 20 per cent of total sales. Very few had sales of other merchandise larger than 5 or 10 per cent.

Because of variations in expenses and profits between the different sections of the country, a system of weighting has been used for combining the results as to individual meat markets by sections. According to the census of 1920 the population of the northeastern section was 38,994,985, of the central section 36,993,957, of the southeastern section 22,860,356, and of the Pacific coast section 6,859,443. The results were first tabulated for each of the four sections by classes of service rendered and by size of stores. These results were then combined for the entire country, giving to the results by sections weights of 39, 37, 23, and 7, corresponding to the population of the sections.

In the analysis of data which follows but little use is made of combined figures for individually-owned markets and chain stores. However, weighted averages for expenses and profits of markets of all kinds combined are desirable, and such averages can be made with approximate accuracy on the basis of information collected in the canvass of the trade. In general, chain stores are found in much larger comparative numbers in the largest cities and are found in smaller comparative numbers as the cities diminish in size (Table 1). Of the cities canvassed chain stores comprised 11 per cent of the total number of stores selling fresh meats in cities over 500,000 in population and 6 per cent of the total in all cities over 25,000 in population. In the cities under 25,000 only one chain store was found. In the cities canvassed the average volume of sales in chain stores was reported as between 50 and 60 per cent greater than the average in all other types combined (Table 6). Accordingly, sales of fresh meats in chain stores in the cities over 25,000 in population were approximately 10 per cent of the total sales in those cities. Since cities of that size include 36 per cent of the total populatoin of the country and sales of meats are larger in cities than in rural districts, it may be roughly estimated that nearly 50 per cent of the total sales of fresh meat occur in such cities and that 5 per cent of such total sales are made by chain stores. Upon the basis of these estimates, the weights of 5 and 95 are used for chain stores and individually-owned markets in making up the general average for all types of stores with family trade.

TABLE 28.—*Operating expenses and profits in the retail meat trade, individual meat markets and chain-store systems, 1919*

Group by type of store, class of service, and annual net sales [1]	Number of stores	Net sales	Cost of goods	Gross margin	Net profit	Total expense	Salaries and wages	Advertising	Wrappings	Refrigeration	Heat, light, and power	Telephone	Rent	Interest	Depreciation	Repairs	Insurance	Taxes	Bad debts	Other expense	Delivery expense [2]		
																					Wages	Other	Total
Carry stores:		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Not over $25,000	11	100	82.08	17.92	2.10	15.82	9.86	0.26	0.53	1.35	0.15	0.26	1.43	0.58	0.49	0.12	0.06	0.08	0.33	0.32			
$25,001 to $50,000	22	100	81.41	18.59	2.33	16.26	10.14	.23	.65	.83	.42	.15	1.55	.52	.58	.15	.11	.11	.12	.70			
$50,001 to $100,000	28	100	82.43	17.57	3.26	14.31	9.25	.17	.84	.65	.20	.10	1.16	.36	.33	.13	.10	.04	.07	.91			
Over $100,000	12	100	83.15	16.85	2.08	14.77	8.94	.49	.80	.44	.26	.10	1.63	.38	.44	.26	.16	.06	.08	.73			
All carry stores	73	100	82.10	17.90	2.42	15.48	9.67	.27	.69	.82	.29	.15	1.46	.47	.48	.16	.11	.08	.14	.69			
Delivery stores:																							
Not over $25,000	13	100	78.56	21.44	2.28	19.16	11.33	.11	.86	1.05	.27	.27	1.69	.73	.76	.22	.05	.21	.19	1.42	2.06	0.84	2.90
$25,001 to $50,000	40	100	79.91	20.09	1.95	18.14	11.67	.08	.76	.88	.29	.23	1.19	.58	.42	.13	.06	.11	.34	1.40	1.90	.86	2.76
$50,001 to $100,000	43	100	81.09	18.91	2.39	16.52	10.53	.19	.65	.58	.25	.18	1.16	.49	.31	.18	.14	.09	.23	1.54	1.35	1.08	2.43
$100,001 to $200,000	25	100	82.03	17.97	2.54	15.43	9.07	.28	.87	.58	.28	.13	1.25	.40	.24	.19	.10	.05	.24	1.75	.89	1.23	2.12
Over $200,000	12	100	82.70	17.30	3.06	14.24	8.08	.32	.95	.30	.30	.10	.89	.35	.24	.13	.13	.04	.26	2.15	.78	1.05	1.83
All delivery stores	133	100	80.37	19.63	2.27	17.36	10.76	.15	.79	.77	.28	.20	1.26	.55	.43	.16	.08	.11	.27	1.55	1.61	.96	2.57
Both carry and delivery:																							
Not over $25,000	24	100	79.73	20.27	2.22	18.05	10.84	.16	.75	1.15	.23	.27	1.60	.68	.67	.19	.05	.17	.24	1.05			
$25,001 to $50,000	62	100	80.41	19.59	2.08	17.51	11.16	.13	.72	.86	.33	.19	1.31	.56	.47	.14	.08	.11	.27	1.18			
$50,001 to $100,000	71	100	81.54	18.46	2.68	15.78	10.10	.18	.71	.60	.23	.15	1.16	.45	.32	.16	.13	.07	.17	1.35			
Over $100,000	49	100	82.63	17.37	2.56	14.81	8.70	.36	.87	.44	.28	.11	1.26	.38	.31	.19	.13	.05	.19	1.54			
All individual stores	206	100	80.95	19.05	2.32	16.73	10.40	.19	.75	.78	.28	.18	1.33	.52	.45	.16	.09	.10	.22	1.28			
Chain stores:																							
7 carry systems, meats	120	100	82.63	17.37	2.97	14.40	8.09	.53	.98	.57	.19	.14	1.28	.40	.33	.28	.12	.08	.04	1.37			
5 carry systems, combination [3]	119	100	79.56	20.44	4.66	15.78	9.47	.32	.76	.80	.23	.19	1.27	.52	.61	.20	.21	.11	.07	1.02			
12 carry systems	239	100	81.74	18.26	3.46	14.80	8.56	.44	.83	.67	.21	.10	1.28	.43	.43	.24	.18	.09	.05	1.29			
3 deliv. systems, meats	27	100	80.07	19.93	2.62	17.31	10.21	.16	.72	.91	.36	.11	1.60	.35	.21	.26	.16	.01	.32	1.93	.60	1.18	1.78
15 chain systems	266	100	81.57	18.43	3.38	15.05	8.75	.40	.80	.70	.23	.10	1.31	.42	.40	.25	.17	.08	.13	1.31			
Individual and chain	472	100	80.98	19.02	2.37	16.65	10.32	.20	.75	.78	.28	.18	1.33	.51	.45	.16	.10	.10	.21	1.28			
Semiwholesale stores	24	100	84.87	15.13	3.04	12.09	6.86	.57	.47	.29	.25	.09	.73	.58	.20	.08	.13	.08	.18	1.58	.89	.79	1.68

[1] The 73 carry and 133 delivery stores are all individual stores with family trade. The 15 chain systems have family trade. The 24 semiwholesale stores have combined family and restaurant trade.

[2] The items of wages and other delivery expenses, while given here separately, are included in the items of salaries and wages, and other expenses.

[3] These five systems sell both meats and groceries, but the figures in the table are for the meat departments only.

ANALYSIS OF OPERATING EXPENSES

SALARIES AND WAGES

The weighted average of salaries and wages of individual stores in 1919, including both carry and delivery concerns, was 10.4 per cent of sales, varying from somewhat less than 9 per cent in the largest stores to approximately 11 per cent in the smallest. For the most part, in the data collected, there is a steady gradation between the groups of stores with largest and those of stores with smallest volume of sales. In so far as there is any variation from this steady gradation, it is perhaps due to lack of perfect representation, owing to the limited number of concerns from which data were obtainable in the particular groups. (See Table 28.)

Wages and Other Expenses in Individual Markets and Chain-Store Branches

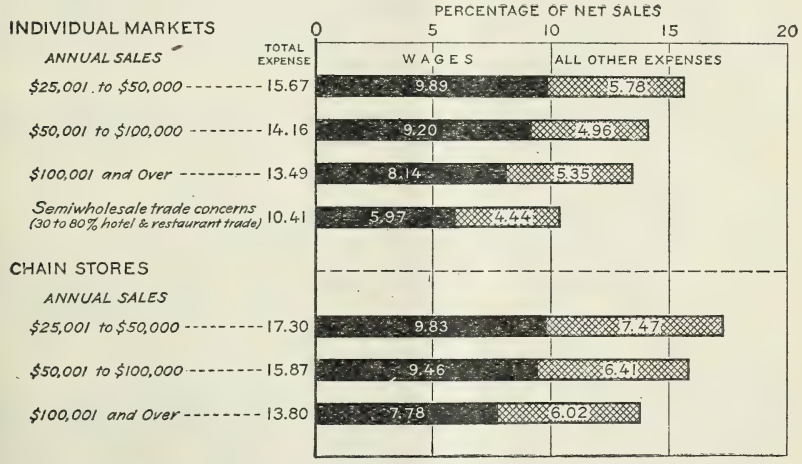

FIG. 4.—Chain-store data include only carry systems. Individual markets include both carry and delivery concerns, but with a deduction of delivery expense both in wages and in other expenses. The gradation both in wages and in other expenses between smaller and larger markets is apparent both among individual concerns and in chain-store systems. From this figure it also appears that operating expenses are lower in individual markets than in chain-store branches of equivalent volume of sales. This comparison should not be made, since the deduction of delivery expense in individual markets is a modifying factor because of the fact that the separation of sales expense and delivery expense can not be accurate, and there is variation in delivery and other services rendered, which can not be accurately measured either in effect or in expense involved.

As explained above, it was necessary in the individual stores to estimate an amount to be allowed as salary to the owner-manager. Otherwise no comparison could be made in operating expenses between stores and groups of stores, because of the varying ratio of the labor of the owner-manager to the paid labor utilized in conducting the business. In the largest stores the item of salaries and wages consists entirely or almost entirely of actual payments to employed labor, but in the smallest stores it is entirely or almost entirely a percentage estimate allowed to the owner-manager.

In chain-store systems the work in the branch stores is performed entirely by paid labor, and usually the work of general management is performed entirely or almost entirely by salaried officials.

Accordingly, the data obtained regarding the wage expense in chain stores are of especial interest. For eight of the chain systems which furnished information regarding operating expenses, complete data were obtained for wages and a number of other items by the branch stores individually. In those systems where there is a considerable variation in the size of the stores, the percentage relation of salaries and wages to sales is usually from 2 to 3 per cent higher in the smaller than in the larger stores; and a general average of the eight systems by size of stores gives approximately the same result. (See Table 30.) Although the average of all salaries and wages in the chain systems all grouped together was considerably lower than the weighted average for all individual stores (see Table 28), the difference between the two types is hardly appreciable when comparison is made between groups of similar volume of sales and giving the same class of service. (See Tables 28, 29, 30 and fig. 4.) Since wages in the chain stores of different sizes accord so closely with those of individual stores of corresponding sizes, an additional indication is furnished that the estimated percentage basis used for individual stores is substantially correct.

TABLE 29.—*Expenses and profits in meat departments of stores of chain systems classified by volume of sales, 1919*

[Percentages calculated on basis of sales as 100 per cent]

CHAIN NO. 1.—MEATS AND GROCERIES; MEAT SALES, $1,368,864.69

Group by volume of sales	Number of stores	Gross margin	Net profit	Total expenses	Wages	Expenses other than wages
		Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Not over $25,000						
$25,001 to $50,000	10	21.56	3.62	17.94	10.29	7.65
$50,001 to $100,000	7	21.13	5.07	16.06	9.97	6.09
$100,001 to $200,000	3	21.72	4.20	17.52	10.12	7.40
Over $200,000						

CHAIN NO. 2.—MEATS AND GROCERIES; MEAT SALES, $1,397,564.38

Not over $25,000	2	21.99	1.66	20.33	11.26	9.07
$25,001 to $50,000	11	22.81	5.12	17.69	9.71	7.98
$50,001 to $100,000	9	22.13	5.06	17.07	9.36	7.71
$100,001 to $200,000	2	23.30	5.24	18.06	8.89	9.17
Over $200,000						

CHAIN NO. 3.—MEATS AND GROCERIES; MEAT SALES, $683,141.01

Not over $25,000	5	17.58	2.94	14.64	9.83	4.81
$25,001 to $50,000	5	17.28	3.13	14.15	8.65	5.49
$50,001 to $100,000	2	19.29	8.54	10.75	7.08	3.67
$100,001 to $200,000						
Over $200,000	1	17.86	7.14	10.72	6.93	3.79

CHAIN NO. 4.—MEATS ONLY; SALES, $2,116,712.88

Not over $25,000						
$25,001 to $50,000	1	17.55	−2.29	19.84	11.48	8.36
$50,001 to $100,000	10	17.62	1.69	15.93	10.38	5.55
$100,001 to $200,000	6	18.53	4.98	13.55	8.65	4.90
Over $200,000	1	16.68	2.97	13.71	8.29	5.42

TABLE 29.—*Expenses and profits in meat departments of stores of chain systems classified by volume of sales, 1919*—Continued

CHAIN NO. 5.—MEATS ONLY; SALES, $1,107,998.79

Group by volume of sales	Number of stores	Gross margin	Net profit	Total expenses	Wages	Expenses other than wages
		Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Not over $25,000						
$25,001 to $50,000						
$50,001 to $100,000	5	16.78	−0.17	16.95	10.09	6.86
$100,001 to $200,000	5	18.11	4.57	13.54	7.53	6.01
Over $200,000						

CHAIN NO. 6.—MEATS ONLY; SALES, $1,838,709.44

Not over $25,000						
$25,001 to $50,000						
$50,001 to $100,000	5	17.87	0.37	17.50	10.08	7.42
$100,001 to $200,000	11	17.74	2.69	15.05	9.27	5.78

CHAIN NO. 7.—MEATS ONLY; SALES, $2,635,785.03

Not over $25,000						
$25,001 to $50,000						
$50,001 to $100,000	4	16.88	3.04	13.84	8.47	5.37
$100,001 to $200,000	16	16.49	4.42	12.07	7.12	4.95
Over $200,000						

CHAIN NO. 8.—MEATS ONLY; SALES, $2,475,691.29

Not over $25,000						
$25,001 to $50,000						
$50,001 to $100,000	3	16.13	3.21	12.92	6.34	6.58
$100,001 to $200,000	13	16.74	2.42	14.32	6.64	7.68
Over $200,000	2	20.18	6.74	13.44	6.76	6.68

NOTE.—In chain systems 1, 2, 3, and 4 of this table, all the stores of the chain in each instance were located in the same city and were for the most part of small volume of sales. In such instances, if a large store has high operating expenses, it is usually because of its being conducted as the show store of the system. In systems 5, 6, 7, and 8, the stores were widely distributed, with merely a single market, usually of large size, in each city. Chain No. 3 differed from other chains handling both meats and groceries in selling its meats in that year on a margin almost as narrow as its groceries. It was also able to conduct its meat operations at a lower expense than other systems of stores of similar volume of sales. Chain No. 8 follows the policy of rapid sales with a minimum of service, thereby enabling it to conduct its operations at a wage expense unusually low.

TABLE 30.—*Comparison of total operating expenses and of salaries and wages by size of stores in chain systems*[1] *and individual markets, 1919*

[Percentages calculated on basis of sales as 100 per cent]

Group of stores by volume of sales	All individual markets					Eight carry chain systems		
	Number of stores	Total operating expenses	Total salaries and wages	Operating expenses excluding delivery expense	Salaries and wages excluding delivery	Number of stores	Operating expenses	Salaries and wages
		Per cent	*Per cent*	*Per cent*	*Per cent*		*Per cent*	*Per cent*
Not over $25,000	24	18.05	10.84	16.12	9.47	7	16.12	10.20
$25,001 to $50,000	62	17.51	11.16	15.67	9.89	27	17.30	9.83
$50,001 to $100,000	71	15.78	10.10	14.16	9.20	45	15.87	9.46
Over $100,000	49	14.81	8.70	13.49	8.14	60	13.80	7.78
Stores with large restaurant trade	24	12.09	6.86	10.41	5.97			

[1] Expenses of the chain-store branches include an apportionment of the general expenses of each chain system.

It is to be noted that in chain systems the buying and management salary expense was lower than in the largest individual concerns by approximately one-half of 1 per cent. (See Table 32.) As compared with smaller individual concerns, the difference would be still greater. In so far as definite conclusions can be drawn from data which are not perfectly comparable at best and in which there is much variation of individual instances, there seems to be a lower salary and wage expense for buying in the chain-store systems, where operations are on so large a scale, than in individual markets, where operations are on a smaller scale, but a higher wage expense for ordinary routine selling in the stores of these systems operated entirely by paid employees, than in the individual meat markets, where the selling is done under the immediate direction of the owner.

The portion of total salaries and wages devoted to delivery of merchandise in individual meat markets, weighted average for all stores maintaining delivery service, was 1.61 per cent of sales. (See Table 28.) The difference in salaries and wages between carry and delivery stores was 1.09 per cent. Since the comparison resulting in the figure 1.09 per cent is between two entirely different sets of stores, embracing all from which data could be obtained in the cities canvassed in all sections of the country, the fact that the variance from the figure of 1.61 per cent is so small is a strong indication that the data obtained are fairly representative of both classes of markets. It is noticeable that the difference between the carry and delivery stores is somewhat higher in the groups with smaller sales than in those with larger sales, corresponding to the fact that delivery wages bear a higher ratio to sales in the smaller than in the larger stores furnishing delivery service.

The salary and wage expense in stores with a large element of restaurant trade is decidedly lower than in stores with family trade only, even in those with approximately an equal volume of sales, the amount of labor involved in handling meats in large quantities in the trade with restaurants being, of course, less than that of handling an equal volume of family trade. If the trade of these stores were entirely of a semiwholesale character, instead of being on an average approximately one-half family trade, the percentage relation of wages to sales would be still lower.

ADVERTISING

The weighted average for advertising in individual stores with family trade is 0.19 per cent of sales. In the carry stores it is 0.27 per cent, and in the delivery stores 0.15 per cent. The reason for the difference is obvious. Delivery stores rely upon holding their trade by delivery service and usually by extension of credit also, whereas the carry stores attract transient trade more largely through advertising. It is to be noted also that the larger markets advertise more freely than the smaller. This was found to be particularly true in the large cities, where it would, of course, be useless for the small concern to advertise in the metropolitan newspapers and where there is very little advantage of advertising by means of circulars, since the local customers frequently pass the door of the shop in any event. In smaller cities the meat markets of small

volume of sales, being perhaps the largest in those cities and comparable in their relation to the total business of the community with those of larger sales in the larger cities, advertise more freely than stores of similar volume of sales in the large cities.

Chain-store systems have an average advertising expense of 0.40 per cent, which is approximately the same as this item in the individual stores of largest size and approximately twice as high as in the individual stores with volume of sales approximately the same as the chain-store branches. Chain stores, just as the largest individual concerns, find advertising more profitable than the small individual concerns because a single advertisement draws attention to readers throughout the city to the entire group of stores in the chain. (See fig. 5.)

In the group of stores with large restaurant trade, advertising expense is higher even than in any of the groups of chain stores, be-

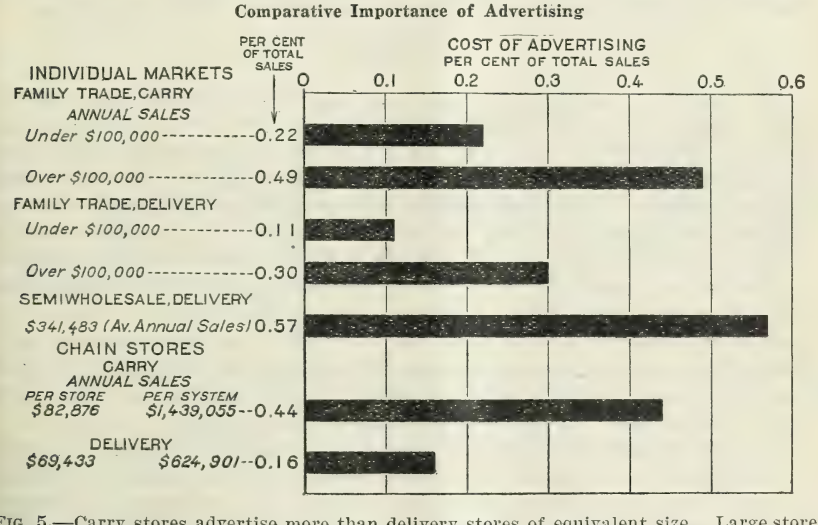

FIG. 5.—Carry stores advertise more than delivery stores of equivalent size. Large stores advertise comparatively more than small stores. Chain-store systems advertise comparatively more than individual markets of a size equivalent to the chain-store branches

cause these concerns, particularly several of the largest included in the canvass, rely upon publicity for building up and holding their trade rather than upon convenience of location with reference to residences of consumers.

WRAPPINGS

The item of wrappings is 0.75 per cent of sales in the individual stores and 0.80 per cent in the chain stores. There is no reason for any considerable difference in this item either because of size or because of class of service, since wrappings must be substantially the same in all instances. In stores with a large restaurant trade, however, this item is appreciably smaller, since the meat sold to hotels and restaurants is regularly in large quantities and often requires no wrapping whatever.

REFRIGERATION

The weighted average for refrigeration in individual stores is 0.78 per cent of sales. In the smallest stores this item is approximately three times as large as in the largest, since the meats can of course be carried with less expense of refrigeration in large quantities than in small.

HEAT, LIGHT, AND POWER

The item of heat, light, and power varies but little among the different classes, types, and sizes of stores. Where there is a considerable variation, it is likely to be due to imperfection of records in some of the stores in a group, particularly a failure to distinguish between the charge for power and that for refrigeration. With the use of ice machines, refrigeration is ordinarly effected by the utilization of electric power, the charge for which is not segregated from the charge for light and for power used for other purposes.

RENT

The weighted average for rent in individual stores was 1.33 per cent of sales. For the carry group it was 1.46 per cent and for the delivery group 1.26 per cent, this difference apparently reflecting the difference in policy that is necessarily followed by carry and delivery stores. The trade of the former is obtained largely by convenience of location, where many persons pass in the daily routine of their duties; the trade of the latter is obtained and held largely by the service rendered, which can be conducted satisfactorily from a location less prominent. Among the chain systems from which data were obtained the item of rent is higher for the small delivery group than for the carry groups, which may be owing to the fact that the three delivery chain systems are all located in New York City, where rents are higher than in smaller places.

The percentage relation of rent to volume of net sales is substantially the same in the larger and in the smaller stores (see Tables 28 and 31), although the rental per unit of floor space in the largest stores is several times as great as in the stores of smallest size. The amount of business done in the desirable locations of the larger stores is so much greater per unit of floor space than the rental constitutes a proportionate charge upon the total business transacted substantially the same as in the smaller stores. (See Table 31.) This is an excellent concrete illustration of the manner in which rental of business locations is determined competitively by their desirability because of volume of business. In other words, the rental of a business site is determined by its productiveness in monetary returns to its occupant, as compared with less desirable sites, in somewhat the same manner as the rental of agricultural land is determined by its productiveness as compared with other land that gives only a sufficient return to meet the cost of operating it.

In concerns of a semiwholesale character with a large element of restaurant trade, average sales per square foot are larger than in stores with family trade because of the larger scale of operations. However, desirable locations are not so necessary, and the average rental per square foot and the percentage relationship of rent to

sales are both lower than in large concerns with family trade. (See Table 31.)

TABLE 31.—*Net sales and rentals per square foot of floor space*

Group by volume of net sales	Number of stores	Average sales per square foot	Average rental per square foot	Rental, per cent of sales
Not over $25,000	3	$21.48	$0.32	1.48
$25,001 to $50,000	19	41.14	.52	1.26
$50,001 to $100,000	21	76.61	.81	1.09
Over $100,000	16	138.22	1.89	1.37
Stores with restaurant trade	15	158.61	1.16	.73

INTEREST AND DEPRECIATION

Interest is slightly greater in the smaller than in the larger stores, because the ratio of equipment to the amount of business done is necessarily higher when transactions are on a small scale. The item of depreciation is slightly smaller than that of interest and is regularly large in those stores and groups of stores in which interest is large, since interest as well as depreciation is determined largely by the investment in the equipment used. In the delivery stores, however, depreciation is smaller than in the carry stores although interest is larger, because the item depreciation includes merely depreciation of store equipment and depreciation of delivery equipment is included in other expense, while the interest allowed on delivery equipment is included with the general interest item.

TELEPHONE, REPAIRS, INSURANCE, TAXES

These minor items exhibit slight variations, such as might be expected. Telephone expense is higher in delivery stores, where the telephone is more used than in carry stores. Repair expense is higher in chain stores, since in individual markets repairs are likely to be made by the proprietor without making note of labor or expense. Insurance expense is higher in large concerns and in chain systems, where such matters are likely to be taken care of definitely, while the small dealer does not consider it worth while to insure his small equipment. Taxes are higher in smaller concerns, since the plant and equipment are larger in relation to volume of sales than in larger concerns.

LOSSES AND BAD DEBTS

Losses from bad debts are approximately twice as large in delivery stores as in carry stores, owing to the fact that the former generally extend credit and the latter do not.

OTHER EXPENSES

The item of other expense is much larger in the delivery than in the carry group because of including in it all delivery expense other than wages. This item is comparatively large in the chain stores, because these concerns make greater use of bookkeeping forms and other office supplies, janitor service, laundry, and other minor elements included in this item than the average individual store.

DELIVERY EXPENSE

The delivery expense in the delivery stores, weighted average for all stores, was found to be 2.57 per cent of the amount of sales. In 77 individual markets for which there was available an estimate of the percentage of goods delivered as well as detailed operating expenses, the expense of delivering was found to be 6.72 per cent of the selling price of the goods actually delivered. Since in the stores giving delivery service an average of only about 40 per cent of goods sold are delivered, the remainder being carried home by the purchasers, the delivery expense distributed over the total sales becomes 2.57 per cent, as just stated.

Assuming that 6.72 per cent was the expense of delivering goods actually delivered, it is probable that the expense would be somewhat lower, say 5 per cent, if a dealer were delivering all the merchandise sold. One large concern with annual sales of more than $600,000, which estimated its deliveries as 90 per cent of merchandise sold and kept its record of delivery expense strictly separate from other expenses, had a delivery expense of 4.57 per cent of sales, corresponding approximately to 5 per cent as the delivery expense of merchandise actually delivered.

The data obtained show the percentage relationship of delivery expense to sales somewhat higher in the smaller than in the larger stores, which is believed to correspond to the facts, since with smaller volume of sales and smaller number of deliveries it is not possible to utilize the time of employees so advantageously. In the smaller stores delivery expense is more largely wages, the bicycle playing no small part in the delivery, while in the larger stores it is more largely other expense, the automobile being much used. Conclusions of too great definiteness should not be drawn regarding variations in this item, since the division of time and expense between selling and delivery can not be perfectly exact.

ANALYSIS OF OPERATING EXPENSES BY GROUPS OF ITEMS

In the individual stores with annual sales of more than $100,000 and in all the chain systems it was possible to obtain fairly satisfactory data for dividing total expense into the several groups of selling expense, delivery expense, buying and management expense, and general expense. (See Table 32.)

Total selling expense in the chain systems was considerably larger than in those groups of individual markets with especially large sales. In the chain systems the groups vary from 8.07 to 9.27 per cent of sales, and in the large individual markets from 7.14 to 7.59 per cent of sales. This difference is principally due to difference in wages of sales force. In these concerns the wage expense consists entirely or almost entirely of actual wages paid. Accordingly, in this comparison there is a further indication of the higher percentage relation of wages to sales in stores with small sales than in stores with large sales.

There is much variation between the different groups in buying and management expense, which is perhaps due in part to methods of keeping accounting records in particular instances. In general, this portion of the total expense in large individual concerns and in chain systems is approximately 2 per cent of net sales. It is this

group—buying and management expense—particularly that can not be segregated from others in the smaller concerns. However, buying on a small scale involves more time per unit of purchase than buying on a large scale, and the percentage relation of this group of sales would undoubtedly be larger in small concerns if the segregation could be made. It seems evident that the percentage relationship of each of the groups—buying and management expense, selling expense, delivery expense, and general expense—to sales is higher in smaller than in larger concerns.

TABLE 32.—*Analysis of operating expenses of large concerns, by groups of items, 1919*

	Individual markets			Chain systems		
	Carry stores	Delivery stores				
	Sales over $100,000 (12 stores)	Sales between $100,001 and $200,000 (25 stores)	Sales over $200,000 (12 stores)	7 carry systems, meats only (120 stores)	5 carry systems, meat operations in combination stores (119 stores)	3 delivery systems, meats only (27 stores)
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Net sales	100.00	100.00	100.00	100.00	100.00	100.00
Cost of merchandise sold	83.15	82.03	82.70	82.63	79.56	80.07
Gross margin	16.85	17.97	17.30	17.37	20.44	19.93
Wages of sales force	6.18	6.27	5.52	6.53	7.99	7.04
Advertising	.49	.28	.32	.53	.32	.16
Wrappings	.80	.87	.95	.98	.76	.72
Other selling expense	.12	.16	.35	.10	.20	.15
Total selling expense	7.59	7.58	7.14	8.14	9.27	8.07
Wages of delivery force	----------	.89	.78	----------	----------	.60
Other delivery expense	----------	1.23	1.05	----------	----------	1.18
Total delivery expense	----------	2.12	1.83	----------	----------	1.78
Buying, management, office salaries	2.76	1.91	1.78	1.56	1.48	2.57
Office supplies and expense	.06	.07	.17	.07	.08	.06
Total buying and management expense	2.82	1.98	1.95	1.63	1.56	2.63
Refrigeration	.44	.58	.30	.57	.80	.91
Heat, light, and power	.26	.28	.30	.19	.23	.36
Telephone	.10	.13	.10	.14	.19	.11
Rent	1.63	1.25	.89	1.28	1.27	1.60
Interest	.38	.40	.35	.40	.52	.35
Depreciation	.44	.24	.24	.33	.61	.21
Repairs	.26	.19	.13	.28	.20	.26
Insurance	.16	.10	.13	.12	.21	.16
Taxes	.06	.05	.04	.08	.11	.01
Losses from bad debts	.08	.24	.26	.04	.07	.32
Other general expense	.55	.29	.58	1.20	.74	.54
Total general expense	4.36	3.75	3.32	4.63	4.95	4.83
Total expense	14.77	15.43	14.24	14.40	15.78	17.31
Net profit	2.08	2.54	3.06	2.97	4.66	2.62

OPERATING EXPENSES, GROSS MARGIN, AND NET PROFIT

EXPENSES AND PROFITS OF ALL STORES COMBINED

In the combined weighted average of concerns representative of the typical retail business, including the 206 individual meat markets and 15 chain-store systems catering primarily to family trade, the

total retailer's margin was 19.02 per cent of the volume of his business as measured by sales, 80.98 per cent being the cost of meats at wholesale. This margin includes expenses of 16.65 per cent and net profits of 2.37 per cent. Among the more important items of operating expenses were: salaries and wages 10.32 per cent, rent 1.33 per cent, refrigeration 0.78 per cent, wrappings 0.75 per cent, interest 0.51 per cent, and advertising 0.20 per cent. Salaries and wages constituted 61.98 per cent of the total operating expenses, rent 7.99 per cent, refrigeration 4.68 per cent, wrappings 4.50 per cent, interest 3.06 per cent, and advertising 1.26 per cent. (See Table 33.)

TABLE 33.—*Percentage relation of the various items of expense to total net sales, total margin, and total expenses*

Item	Relation to net sales	Relation to gross margin	Relation to total expense	Item	Relation to net sales	Relation to gross margin	Relation to total expense
	Per cent	*Per cent*	*Per cent*		*Per cent*	*Per cent*	*Per cent*
Net sales	100.00			Telephone	0.18	0.95	1.08
Cost of merchandise sold	80.98			Rent	1.33	6.99	7.99
Gross margin	19.02	100.00		Interest	.51	2.68	3.06
Net profit	2.37	12.46		Depreciation	.45	2.37	2.70
Total expense	16.65	87.54	100.00	Repairs	.16	.84	.96
Salaries and wages	10.32	54.26	61.98	Insurance	.10	.53	.60
Advertising	.20	1.05	1.20	Taxes	.10	.53	.60
Wrappings	.75	3.94	4.50	Losses from bad debts	.21	1.10	1.26
Refrigeration	.78	4.10	4.68	Other expense	1.28	6.73	7.69
Heat, light, and power	.28	1.47	1.68				

EXPENSES AND PROFITS BY CLASS OF SERVICE

The difference in operating expenses between carry stores and delivery stores, weighted average for all individual markets, was 1.88 per cent of net sales. (See Table 28.) The delivery expense in delivery stores was 2.57 per cent of net sales. Since the comparison of carry and delivery is of two entirely different sets of stores, and since the segregation of delivery from other expenses could not be perfectly accurate, these two sets of figures should be taken as a rough indication that delivery expense when distributed over the entire business of the concern was on an average approximately 2 or 2.5 per cent of the amount of net sales. As already stated, the expense of delivering each order was probably more nearly 7 per cent, and if all orders were delivered it could probably be accomplished for approximately 5 per cent.

The difference in gross margin between carry and delivery stores was also approximately 2 per cent. Since the gross margin is the difference between the amount paid for meats and the amount for which meats and waste products are sold, it appears that the spread between wholesale and retail prices in delivery stores is approximately 2 cents in the dollar of sales greater than in carry stores. If the dealer attempts to adjust his prices strictly according to the service rendered, his prices should be approximately 7 cents in the dollar higher for the delivered order than for the one carried by the customer.

Net profit is approximately the same in carry and in delivery stores. In general, the retailer furnishing delivery service makes his prices

higher by an amount sufficient to pay the additional expense of delivery service, leaving to him approximately the same net profit as if his business was conducted on a carry basis. Among chain systems also, those selling meats only show approximately the same net profits in the carry and in the delivery groups. (See fig. 6.)

Gross Margin, Net Profit, Wages, and Other Expenses in Carry and Delivery Stores

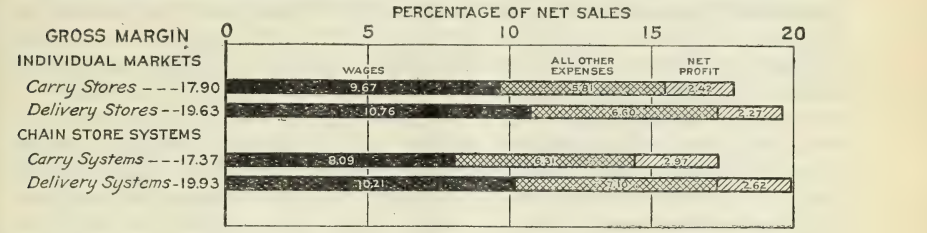

FIG. 6.—Gross margin or spread between sales at retail and cost of goods at wholesale is greater in delivery stores than in carry stores by approximately the difference in total expenses. In consequence the net profit in the two groups is approximately the same. In chain-store systems substantially the same comparative relationship prevails as in individual markets

EXPENSES AND PROFITS BY SIZE OF STORES

The gross margin or spread between cost of merchandise and sales for the stores with family trade was larger by from 2 to 3 per cent of sales in the groups of stores with small sales than in those with larger sales. The difference in operating expenses between the smaller and larger stores was somewhat greater, with the result that net profits were a little more than 2 per cent in the smaller stores and somewhat more than 2.5 per cent in the larger stores. (See Table 28.)

Since the division between the salary of the manager-owner and his net profit, particularly in the smaller stores, is necessarily an arbitrary one, it is desirable to consider what is the amount received by him as both salary and net profit. In the small one-man store with annual sales of $20,000 per year, the amount of estimated wage or salary is 8 per cent, or $1,600. With an additional net profit of 2 per cent of the amount of sales, the manager-owner received in 1919 a total net return for his labor, skill in management, and the risk incurred of approximately $2,000. For the manager-owner of a store with sales of $40,000, perhaps requiring the additional labor of one employee, the estimated salary of $2,200 and an additional 2 per cent of the amount of sales makes a total of $3,000. For sales of $80,000, the estimated salary of $2,800 and an additional net profit of 2.5 per cent on sales makes a total of $4,800, as the entire return to the manager-owner from the business, aside from rent and a fair interest return on the capital invested. For a concern with sales of $200,000 and a staff of perhaps 8 or 10 employees, the estimated salary of the manager-owner is $3,500 and the net profit of 2.5 per cent is $5,000, making a total return of approximately $8,500.

EXPENSES AND PROFITS BY SECTIONS OF THE COUNTRY

The percentage relationship of operating expenses, and particularly of gross margin to sales, was found to be appreciably larger in the southeast and Pacific coast sections than in the northeast and

central sections. In the southeast this is explainable in part by more extensive delivery service. In that section very few carry stores were found, and no satisfactory accounting records were obtained from carry stores.

In both these sections wages seem to play a large part in bringing about a higher percentage relationship of operating expenses to sales. (See Table 34.) In the Pacific coast section wages per hour seem to be actually higher; in the southeast section wages per hour are lower, but the actual cost to the business is higher, perhaps because of less efficient business methods and less efficient labor. The data obtained indicates higher net profits in both these sections. The number of accounting records that could be obtained in the south was small, and the average figures are perhaps not conclusive; but the number of records from the Pacific coast proportionate to the population is large, and there seems to be little doubt that the margin between cost of merchandise and sales and accordingly the spread between the wholesale prices paid by the retailer and the retail prices received by him was large.

In the central section both the retailer's margin and the net profit were appreciably lower than in other sections. In the northeast section operating expenses were comparatively lower than in other sections and in that way a fairly liberal net profit was obtained. Wages per hour were apparently as high as the average for the country, and lower comparative operating expenses seem to have been due to more efficient operation.

TABLE 34.—*Operating expenses and profits by sections of the country—individual meat markets with family trade, 1919*

[Percentages calculated on basis of sales as 100 per cent]

Section	Number of stores	Net sales	Cost of goods	Gross margin	Net profit	Total expense	Salaries and wages	Wrappings	Refrigeration, heat, light, power	Interest	Rent	Other expense
		Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Carry stores:												
Northeast	28	100.00	81.99	18.01	2.64	15.37	9.78	0.69	1.07	0.36	1.62	1.85
Central	27	100.00	82.72	17.28	1.84	15.44	9.34	.64	1.17	.61	1.24	2.44
Pacific coast	18	100.00	79.37	20.63	4.26	16.37	10.80	.99	1.01	.35	1.86	1.36
Delivery stores:												
Northeast	58	100.00	81.01	18.99	2.23	16.76	10.14	.72	1.11	.57	1.33	2.89
Central	35	100.00	81.26	18.74	1.15	17.59	10.63	.79	.90	.58	1.24	3.45
Southeast	13	100.00	78.68	21.32	3.66	17.66	11.94	.79	1.08	.45	1.06	2.34
Pacific coast	27	100.00	79.12	20.88	2.93	17.95	11.43	.86	1.01	.54	1.22	2.89

GROSS MARGIN IN NEW YORK CITY

In a survey by the Federal food board of New York City, in 1918, in an attempt to determine expenses and profits in the retail meat trade in that city, estimates were obtained covering the calendar year 1917 from 82 representative carry and 130 representative delivery stores. Since in that survey estimates were accepted from concerns that did not keep complete systematic accounting records, data were obtained from large numbers of small stores. While these estimated figures can not be regarded basically so reliable in the details of all items of expense, they are undoubtedly fairly ac-

curate in the gross margin, or difference between cost of merchandise and sales. They accord in general so nearly in gross margin with the figures obtained by actual examination of accounting records in the present survey that they lend support in the broader basis furnished, particularly in the data from the large number of small concerns.

In the New York City survey the gross margin was found to be larger in the delivery than in the carry stores by approximately 2 per cent of sales, thereby closely approximating the figures of the present survey. There was, moreover, a steady gradation between the groups segregated by volume of sales, the gross margin on the basis of sales in the larger concerns being approximately 2 or 3 per cent smaller than in the smaller concerns, according rather closely with the result of the present survey. (See Table 35 and compare Table 28.)

TABLE 35.—*Gross margin in retail meat trade in New York City, 1917*

Group by annual sales	Carry stores		Delivery stores	
	Number of stores	Gross margin	Number of stores	Gross margin
		Per cent		*Per cent*
Not over $25,000	45	18.38	32	19.51
$25,001 to $50,000	27	17.35	62	19.50
$50,001 to $100,000	9	16.07	26	18.82
$100,001 to $200,000			[1] 10	17.02
Over $200,000 [1]	1	12.54		

[1] It is probable that the carry store with sales over $200,000 had a large percentage of hotel and restaurant trade and that among the 10 delivery stores with sales between $100,001 and $200,000 there were some of the same type.

EXPENSES AND PROFITS OF CHAIN STORES

Gross margin.—The average gross margin between cost at wholesale and sales at retail of the 15 chain-store systems from which data were obtained was 18.43 per cent of sales, somewhat less than the weighted average for the individual meat markets. However, the average volume of sales per store in the chain systems was much larger than the weighted average of the individual stores, which would enable them to sell on a narrower margin because of lower operating expenses. On the other hand, some of them carried both meats and groceries, under which conditions meats are usually sold on a wider margin, as will be discussed later. When comparison is made between chain stores and individual markets of approximately the same average size, confining their trade to meats and giving the same class of service, it is found that the gross margin is somewhat higher in the chain stores than in the individual markets. (See Tables 26 and 28.)

When the stores in each chain system are grouped according to volume of annual sales the average gross margin by groups varies but little. In so far as considerable differences occur within the single chains, the higher gross margin is more frequently in the groups of stores with larger volume of sales than in those with smaller volume, although operating expenses are regularly higher

in the stores with smaller volume of sales. However, in those systems whose stores are mostly small the average gross margin for the entire chain is usually large. (See Table 29.) In this respect the chain systems, as systems, are in accord with individual stores in being able to make a wide margin when bringing their trade close to the family consumer and in being compelled to sell on a narrow margin when competing with larger concerns in dealings on a larger scale. In general the higher cost of operation in a system whose stores are mostly small necessitates a rather wide margin between cost of merchandise at wholesale and selling prices at retail, just as in individual stores. (See Tables 29 and 30.)

Operating expenses.—The average total operating expenses in the 15 chain systems were 15.05 per cent of sales, considerably less than the weighted average for the individual meat markets. This difference, as that in gross margin, is primarily due to the larger average volume of sales in the chain stores and the lower expenses of operation when volume is greater. When comparison is made with individual markets of the same average size and giving the same class of service, operating expenses are usually found to be higher in the chain stores. (See Tables 26, 28, 29, and 30.)

In the discussion of the various items of expense reference has already been made to differences between chain and individual stores in certain items that serve to make the total difference that appears between the two types of stores. The item of salaries and wages is substantially the same in chain stores as in individual markets of equal volume of sales. However, advertising is distinctly higher in chain-store systems, and similar differences appear in the minor items of repairs and insurance and in the miscellaneous group making up other expense. As has already been explained, there are reasons why these items should bear the relation shown, and accordingly it is probable that the data presented are fairly representative of the two types of stores in the trade.

Net profit.—The average percentage of net profits of the reporting chain systems selling meats only was approximately the same as of individual meat markets, being somewhat higher than the weighted average of all individual meat markets and only slightly larger than the average of individual markets of larger size. (See Table 28.) The differences are not greater than could easily result from individual variations and do not clearly indicate any greater profitableness in the trade carried on in chain systems than in individual markets. In chain systems conducting combination stores selling both meats and groceries, however, there is clear indication of a higher percentage of profit on meats sold than in systems selling meats only and of a higher percentage of profit on meats than on groceries sold in the same concerns. This matter will be briefly discussed in connection with the grocery trade.

Between stores of different sizes in the same chain there are usually very marked differences in net profit, which are of extreme interest. Within the same chain there is usually a considerable degree of uniformity in percentage of gross margin between stores of different size, and operating expenses are usually considerably higher in the smaller than in the larger stores. The obvious consequence is that the net profit is much higher in the larger than in the smaller stores,

the difference in some instances being so great that the smaller stores are virtually carried by the larger. (See Table 29.) The sale of meats at prices that result in high net profits in the large stores and low net profits in the small stores is probably due in most instances to a policy of maintaining uniform prices in all stores of the system, but in some instances to a policy of selling at favorable prices in the newer and smaller stores for the purpose of building up trade in new territory.

COMPARATIVE OPERATING EXPENSES AND PROFITS IN SELLING MEATS AND GROCERIES

In this survey no attempt was made to obtain detailed data regarding operating expenses in stores not handling fresh meats, but from information obtained incidentally and from data from other sources it is possible to make interesting comparisons. Detailed information regarding operating expenses was obtained in 55 combination stores with total sales of both groceries and meats in 1919 of $11,360,831.86, meats being estimated to constitute 47 per cent and groceries 53 per cent of the total sales. Expense accounts for meats and groceries were not kept separate, and the figures obtained show the combined operations for both classes of merchandise. (See Table 36.)

In chain-store systems selling both meats and groceries from which operating expense data were obtained, data regarding total margin and total operating expenses for groceries, as well as for meats, were obtained from systems operating 81 stores selling meats with net sales for 1919 of $4,050,628.62 and 221 stores selling groceries with net sales for 1919 of $8,759,965.31. (See Table 37.) In other chain systems and in several large individual concerns, where separate accounts of operating expenses were not kept, records of cost of merchandise and of sales were kept separate for meats and groceries. Including both these concerns and the others with more complete records, data regarding cost of merchandise sold, sales, and percentage of gross margin were obtained from chain systems comprising 166 stores selling meats with sales of $5,669,528.69 and 329 stores selling groceries with sales of $20,612,184.29, in 1919, and from 8 individual concerns with sales of meat to the amount of $3,239,160.28 and groceries to the amount of $4,828,557.62 in the same year. Similar data for an approximately equal volume of sales were obtained for 1920 and for a somewhat smaller volume for 1921. (See Table 38.)

In a separate study of the retail grocery trade covering 1919, detailed information regarding operating expenses and profits (see Table 36) was obtained from 175 stores, with sales approximating $9,000,000. (See Bulletin No. 18, Bureau of Business Research, Harvard University.) The study of the grocery trade was not continued for the two subsequent years.

COMPARISON OF OPERATING EXPENSES IN SALE OF MEATS AND OF GROCERIES

According to the study of the grocery trade, interest was 1 per cent of sales as compared with 0.52 per cent in individual meat markets, and depreciation of store equipment was 0.27 as compared with 0.45 per cent. (See also Table 28.) The higher interest

charge in the grocery trade is clearly due to the large stock of merchandise carried, averaging approximately 12 per cent of annual purchases or 10 per cent of annual sales, whereas in the fresh-meat trade the stock of merchandise carried is more nearly 2 per cent of the annual turnover. In the grocery trade, refrigeration is of so little consequence as not to receive separate attention, but it is of appreciable amount in the meat trade.

Total salaries and wages in the grocery concerns, substantially all of which furnished delivery service, were approximately 8.3 per cent of sales as compared with 10.76 per cent in the retail meat stores furnishing delivery service. Delivery expense was reported as lower than in the retail meat trade, although the percentage of merchandise delivered was somewhat higher. An allowance of a salary was made to the owner-manager as determined by himself and entered in his records. With this wage allowance, the net profit in the grocery trade was 2 per cent of sales, approximately the same as in the retail meat trade. The gross margin of the concerns reporting in the grocery trade was 17 per cent of sales, as compared with 19.63 per cent in delivery stores in the meat trade. Total operating expense was 14.6 per cent in the former and 17.36 per cent in the latter.

In the combination stores there is a marked variation from the meat trade in the same items of expense as in the grocery trade, although this variation is regularly less.

TABLE 36.—*Operating expenses and profits in straight meat markets combination stores, and grocery stores, all types furnishing delivery service, 1919*

Item	Straight meat markets					Combination stores				Grocery stores (175 stores)
	Annual sales not over $25,000, 13 stores	Annual sales between $25,001 and $50,000, 40 stores	Annual sales between $50,001 and $100,000, 43 stores	Annual sales between $100,001 and $200,000, 25 stores	Annual sales over $200,000, 12 stores	Annual sales between $25,001 and $50,000, 12 stores	Annual sales between $50,001 and $100,000, 13 stores	Annual sales between $100,001 and $200,000, 14 stores	Annual sales over $200,000, 16 stores	
	Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Net sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cost of merchandise	78.56	79.91	81.09	82.03	82.70	80.90	81.29	83.32	83.48	
Gross margin	21.44	20.09	18.91	17.97	17.30	19.10	18.71	16.68	16.52	17.0
Net profit	2.28	1.95	2.39	2.54	3.06	1.31	.82	.74	.85	2.0
Total expense	19.16	18.14	16.52	15.43	14.24	17.79	17.89	15.94	15.67	14.6
Salaries and wages	11.33	11.67	10.53	9.07	8.08	10.63	11.68	9.43	8.97	8.3
Wrappings	.86	.76	.65	.87	.95	.69	.58	.64	.78	.6
Refrigeration	1.05	.88	.58	.58	.30	.65	.42	.35	.33	
Heat, light, and power	.27	.29	.25	.28	.30	.28	.26	.27	.37	.23
Rent	1.69	1.19	1.16	1.25	.89	1.16	1.12	1.17	.79	1.1
Interest	.73	.58	.49	.40	.35	.85	.70	.82	.59	1.0
Depreciation	.76	.42	.31	.24	.24	.37	.19	.22	.20	.27
Other expense	2.47	2.35	2.55	2.74	3.13	3.16	2.94	3.04	3.64	
Delivery expense	2.90	2.76	2.43	2.12	1.83	3.90	3.35	2.72	2.52	2.4
Wages	2.06	1.90	1.35	.89	.78	2.16	2.01	1.53	1.01	1.4
Other	.84	.86	1.08	1.23	1.05	1.74	1.34	1.19	1.51	1.0

NOTE.—The figures for straight meat markets are weighted averages by sections of the country as in Table 28. Those for combination stores are simple averages, the different sections not being fully represented. Those for grocery stores are from Bulletin No. 18, Bureau of Business Research, Harvard University. They are not average figures, but the "common figures" for each item, "determined by what is known in scientific statistical work as the mode." The figure for wages is the sum of three "common" figures, buying and management, selling, delivery.

COMPARATIVE MARGINS AND PROFITS ON MEATS AND GROCERIES WHEN SOLD TOGETHER

In the concerns selling both meats and groceries, but keeping records of the operations separate, an interesting comparison can be made of gross margin and net profits in the two classes of merchandise when sold together. In the chain-store systems for which operating-expense information was obtained, operating expenses in relation to sales for meats, in 1919, was 2.08 per cent higher than for groceries (see Table 37), corresponding rather closely to the difference between individual concerns in the two trades. The gross margin, however, was 20.38 per cent in the meat operations as com-

TABLE 37.—*Comparative gross margin, operating expenses, and net profit in sale of meats and groceries together in chain systems*

Year	Meats					Groceries				
	Number of stores	Net sales	Gross margin	Total expense	Net profit	Number of stores	Net sales	Gross margin	Total expense	Net profit
			Per ct.	*Per ct.*	*Per ct.*			*Per ct.*	*Per ct.*	*Per ct.*
1919	81	$4,050,628.62	20.38	15.50	4.88	221	$8,759,965.31	13.09	13.42	−0.33
1920	82	3,752,679.03	21.15	16.72	4.43	214	11,177,136.66	11.98	12.34	−.36
1921	56	2,800,633.86	24.66	20.22	4.44	99	4,374,100.55	17.63	17.67	−.04

TABLE 38.—*Comparative gross margin in sale of meats and groceries together*

CHAIN SYSTEMS

Year	Meats			Groceries		
	Number of stores	Net sales	Gross margin	Number of stores	Net sales	Gross margin
			Per cent			*Per cent*
1919	166	$5,669,528.69	20.06	329	$20,612,184.29	14.11
1920	151	5,535,721.13	20.95	244	22,442,795.11	13.61
1921	146	4,869,862.25	25.69	182	16,293,638.54	16.50
INDIVIDUAL CONCERNS						
1919	8	$3,239,160.28	17.81	8	$4,828,557.62	14.67
1920	4	2,473,475.99	17.82	4	2,163,887.51	14.26
1921	5	1,889,151.66	22.13	5	1,864,799.54	17.41

pared with 13.09 per cent in the grocery operations, a difference of 7.29 per cent. In consequence, while operations in meats showed a net profit of 4.88 per cent, those in groceries showed a net loss of 0.33 per cent. In 1920 and 1921 the net profits in the operations on meats were 4.43 per cent and 4.44 per cent, respectively, and the net losses on groceries 0.36 per cent and 0.04 per cent respectively.

In the much larger number of stores, with correspondingly larger volume of operations, from which data are available concerning cost of merchandise and sales, the same characteristics prevails—a much wider spread of gross margin in meats than in groceries. (See Table 38.) The average difference is not so great in the group of large individual concerns from which this information is available.

(See Table 38.) In some of the individual concerns the difference was substantially as great as in the chain systems, while in some of the largest the gross margin was substantially the same in groceries as in meats.

The principal reason for the narrower margin in groceries is clearly the policy in some instances of using groceries as leaders and in general of meeting active competition by low retail prices on groceries while making the necessary profits of the combined business by a wider margin on the fresh meats sold. The possibility of such a policy lies in the readiness with which differences in prices of standardized groceries are recognized and appreciated, while in the fresh-meat trade differences in grade are but little understood and differences in trim are but little appreciated by the ordinary customer. Under widely accepted modern methods of merchandising, trade is drawn by leaders or standardized brands strongly featured in advertisements, and the necessary profits must be made in those lines in which differences in prices are not so readily noticeable. When meats are sold in connection with groceries, the fresh meats offer the best opportunity for profits. If on the basis of net sales the gross margin is to be made 2 per cent higher than it would otherwise be, it is merely necessary to make the price on preferred cuts 4 or 5 per cent higher, perhaps 2 cents a pound, with a smaller difference on less desired cuts, or that in selling a side of beef weighing 300 pounds, 3 or 4 pounds less of bone and fat be removed in trimming the high-priced cuts.

From the somewhat limited data available, the policy of maintaining a wider margin on meats than on groceries seems more prevalent among chain-store systems than among individual concerns, possibly because of an aggressive policy of expansion, since new territory must be opened up by vigorous competition. This competition is likely to be based upon standardized merchandise, whereas meats offer special opportunity for profit when trade has been drawn to the premises by leaders.

COMPARATIVE MARGINS ON DIFFERENT KINDS OF MEATS

Few retail dealers have records showing the comparative margin or spread between cost at wholesale and sales at retail of different kinds of meat, but estimates of the margins they ordinarily expected to obtain were obtained from more than 500 of the more representative markets in the cities canvassed. These estimates were obtained in 1920, when the dealer's margin was undoubtedly higher than in 1919, and in most instances they were based on costs at wholesale, as this is an easier method of calculation than if based on selling price at retail. Accordingly, the percentage of margin as shown by the average of the replies is somewhat higher than that shown by examination of the records of the year before, even though dealers would be more likely to give estimates too low than too high. Since a general average of the estimates accords fairly well with the actual average margin of those concerns that furnished accounting records and the difference between cash-and-carry stores and service stores in these estimates accords closely with the difference shown by examination of accounting records, the estimates may

be regarded as approximately correct and as showing with reasonable accuracy the comparative relationship of the margins on the various kinds of meat.

From these estimates it appears that the margin is regularly wider on fresh meats than on cured meats and lard. The concerns with a wider margin on cured meats are usually those where the meat is sliced in the shop, and this wider margin may constitute no more than a reasonable charge for the labor involved and allowance for the inevitable waste. In general, the average percentage of margin on cured meats and lard in these estimates was approximately four-fifths as large as that on fresh meats. The labor and expense of handling, preserving from deterioration, and selling are much less in cured than in fresh meats, and it is to be expected that the margin should be narrower in the former than in the latter. As between the different kinds of fresh meat, these estimates usually showed no difference. Where differences were shown, the margin on veal, pork, lamb, and mutton was more frequently estimated narrower than wider as compared with beef. (See Table 39.)

TABLE 39.—*Estimated gross margin reported by retailers on various kinds of meat. Number reporting each rate of gross margin, and average of estimates.*

Estimated gross margin reported	Fresh beef		Fresh pork		Lamb and mutton		Cured meats		Lard and substitutes	
	146 cash and carry stores	410 service stores	144 cash and carry stores	422 service stores	139 cash and carry stores	420 service stores	131 cash and carry stores	396 service stores	131 cash and carry stores	321 service stores
Per cent	*Per cent of total*	*Per cent of total*	*Per cent of total*	*Per cent of total*	*Per cent of total*	*Per cent of total*	*Per cent of total*	*Per cent of total*	*Per cent of total*	*Per cent of total*
10	0.68	0.98	0.69	2.37	0.72	1.19	17.56	26.26	26.72	23.05
12½	.68	.24	1.39	.24	1.44	.24	-------	2.02	-------	2.49
15	10.96	5.37	11.81	8.06	10.79	4.29	30.54	24.24	32.06	25.24
16⅔	.68	.73	.69	1.18	.72	.71	-------	1.52	.76	2.18
18	1.37	2.93	1.39	3.08	1.44	2.38	2.29	2.02	6.11	.31
20	56.85	56.10	62.50	55.08	63.31	60.00	32.82	32.83	24.43	36.45
22	6.85	1.70	.69	1.90	.72	2.15	.76	1.26	-------	.62
25	19.87	24.87	18.75	24.17	18.70	23.33	16.03	9.60	8.40	9.66
30	2.06	5.61	2.09	4.50	2.16	4.52	-------	.25	1.52	-------
33⅓	-------	1.47	-------	1.42	-------	1.19	-------	-------	-------	-------
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Average margin	20.62	21.97	20.35	21.53	20.39	21.42	17.49	16.45	16.25	16.66

WAGES AND SALES PER SALESMAN

RATE OF WAGES

Inasmuch as salaries and wages were found to constitute more than 60 per cent of total operating expenses, the actual rate of wages paid is of interest. In the smallest concerns there are but few full-time experienced meat cutters and salesmen on a wage basis, and wages are determined by special conditions. In 59 concerns, with annual sales of more than $50,000 each and total sales of approximately $8,000,000, data were obtained covering pay rolls with a fair degree of accuracy as to time and wages. In these concerns the average wage paid to cutter salesmen in 1919 was $1,534.36.

No appreciable difference was noted within this group because of size of stores. In 28 concerns, with annual sales between $50,000 and $100,000, the average wage was $1,560.23. In 22 larger concerns, with average sales of $182,000, the average wage was $1,528.49. In 9 concerns with a large element of hotel and restaurant trade, with average sales of $210,000 and with sales per salesman approximately 30 per cent higher than in equally large concerns with family trade only, the average wage was $1,527.08. In southern cities the rate paid was usually lower than $1,500 and in northern cities usually higher.

SALES PER SALESMAN

In stores with regular family trade the average volume of sales per salesman varied from somewhat less than $20,000 in the smaller stores to somewhat more than $30,000 in the larger stores. In stores with a large element of restaurant trade the average was in excess of $40,000. (See Table 40.)

These differences are to be expected. In the smallest stores, the time of the single salesman can not be adjusted to the requirements of the trade as well as the combined time of a group of salesmen in larger stores. Moreover, the salesman in the smallest stores, usually the owner, has other duties, as buying, keeping accounting records, possibly delivering, and general care of the premises and of the business. In concerns with a large element of restaurant trade the average sales per salesman are larger because of the larger scale on which transactions occur.

In the meat trade no conclusion should be attempted regarding comparative efficiency or inefficiency of operation from the amount of sales per salesman based upon data now available or likely to become available. It would first be necessary to eliminate other factors, and these factors are so involved and so variable that their elimination seems impossible. Stores with largest sales per salesman are regularly those with a large element of restaurant trade. In these the relation of operating expenses of substantially all sorts to total sales is much lower than in stores with family trade only. (See Table 28.) The difference with respect to both sales and operating expenses is due to the semiwholesale character of the operations in the one group as compared with the other. Similarly, if any dealer gives especial service in more careful cutting and trimming or in other respects, the sales per salesman will be lower and the operating costs will be higher if other factors and conditions are the same.

In general, if salesmen are diligent and make larger volume of sales, the business will be conducted at lower expense in relation to sales than if they are not. Proof of a principle so well understood is unnecessary, and precise proof would be impossible because of varying customs in the trade. The greatest diligence and efficiency in a strictly retail establishment giving a high degree of service could not result in so large sales per salesman as somewhat lesser diligence and efficiency in a concern offering a lower degree of service or engaged in semiwholesale trade, including largely restaurant and hotel trade.

TABLE 40.—*Volume of sales per salesman in the retail meat trade*

Groups by class of service and annual sales	Number of stores	Number of salesmen, including owner	Average net sales	Average sales per salesman
Carry stores:				
Not over $25,000	11	11.7	$18,938.63	$17,669.63
$25,001 to $50,000	14	25.4	35,878.26	19,775.40
$50,001 to $100,000	10	25.6	76,597.32	29,920.82
Over $100,000	3	10.9	123,473.65	33,860.23
Delivery stores:				
Not over $25,000	5	5.6	18,755.78	16,746.23
$25,001 to $50,000	27	43.7	36,058.00	22,278.40
$50,001 to $100,000	18	41.1	68,541.44	30,018.15
$100,001 to $200,000	14	58.2	135,440.86	32,580.27
Over $200,000	5	61.2	347,431.04	28,384.88
Stores with large restaurant trade	9	46.5	210,494.16	40,740.80

CONDITIONS UNDER WHICH HIGH OR LOW NET PROFITS PREVAIL

The weighted average of net profit of all individual markets with family trade was 2.32 per cent of annual net sales. The variation of net profit among markets was considerable, and this variation was approximately equally great in the two types of concerns—carry and delivery. Of the total of 206 markets that furnished accounting information, consisting of 73 carry and 133 delivery concerns, 16 carry and 25 delivery concerns sustained a net loss, and 20 carry and 24 delivery concerns made a net profit in excess of 5 per cent of the amount of net sales. On the basis of size of store the extremes were somewhat greater in the smaller than in the larger concerns, as is to be expected; and the comparative numbers with high profits were somewhat greater among the concerns of large volume of sales than among those of small volume. Variation in net profits was found to exist regardless of class of service or size of concern, however, and it will be of interest to seek other factors existing in all groups.

For this purpose each group of markets by class of service and volume of sales has been divided horizontally into four subgroups, according to the range of net profit, and a weighted average has been made of gross margin, net profit, and the various items of expense in new groups brought together on the basis of this horizontal division. The 3 stores showing the highest net profit of the 12 carry stores with sales over $100,000, the 7 showing the highest net profit of the 28 carry stores with sales between $50,001 and $100,000, the 6 highest of the 22 with sales between $25,001 and $50,000, and the 3 highest of the 11 with sales of $25,000 or less have been brought together in a group of 19 carry stores of the highest net profits. In the same manner the quarter subgroups of the second range of net profit, of the third range, and of the lowest range of net profit have been brought together in horizontal groups totaling 18 in each instance. A similar subdivision and regrouping has been carried out among the delivery stores with 34 in the highest group and 33 in each of the others. Within each of these horizontal groups a weighted average has been worked out in substantially the same way as for all stores together. (See Table 41.)

The horizontal group composed of the highest one-quarter of all groups shows an average net profit of 6.91 per cent of net sales; the second horizontal quarter group, 3.14 per cent; the third, 1.16 per cent; and the lowest, a net loss of 1.51 per cent. Between the two extreme groups the difference is 8.42 per cent. Under the same grouping the difference in gross margin between the highest and the lowest is almost as great as in net profit, the gross margin for the highest quarter group being 22.70 per cent of net sales, and the lowest 15.85 per cent, a difference of 6.85 per cent. The average of total operating expenses in the same two groups is 15.79 per cent in the highest, and 17.36 per cent in the lowest, the quarter group with an average net loss having expenses higher than the quarter group with highest profits by an average of 1.57 per cent of sales. Upon the basis of this group data it appears that the high range of net profit is due primarily to the gross margin obtained by the retailer and only in much smaller degree to saving in expense of operation.

Since in the smallest concerns the work is done chiefly or entirely by the owner, whose wages must be estimated, and in concerns of medium size the estimated wage of the proprietor constitutes a substantial part of the total wage expense, it is desirable to make the comparison of gross margin, total expense, and net profit in the largest concerns separately, where all or substantially all the wage expense consists of definitely paid wages. Among the 49 concerns with annual net sales of over $100,000 the average net profits in the highest, second, and third horizontal groups were 6.27 per cent, 3.55 per cent, and 1.98 per cent, respectively, of sales, and in the lowest group there was an average net loss of 0.06 per cent. The average gross margin for the four groups, respectively, was 19.42 per cent, 19.02 per cent, 17.62 per cent, and 14.61 per cent of sales, and the average total expense for the four groups, respectively, was 13.15 per cent, 15.47 per cent, 15.64 per cent, and 14.67 per cent. Accordingly, among these large concerns, where wages as well as other items of expense are definitely paid and not estimated, where bookkeeping records are presumably particularly accurate, and where more definite commercial policies are followed than in smaller concerns, there is the same wide difference in gross margin and narrow difference in operating expenses, indicating that high range of net profit is due primarily to the gross margin obtained and only in much smaller degree to saving in expense of operation.

High gross margin may result from taking advantage of lack of competition, from skillful salesmanship in selling meats of equal grade at higher prices than competitors, from making purchases at wholesale on favorable terms, from cutting and trimming meats in ways to meet the requirements of customers and thereby bringing out the greatest value, or from utilizing merchandise thoroughly by avoidance of waste or deterioration. Skill in cutting and trimming and care in avoiding waste are special marks of efficiency in the public interest as well as in the interest of the dealer. Care and alertness, even shrewdness, in buying and selling are important factors which dealers exercise in their own interest. The most important factor in extreme instances of high profit or of net loss in taking advantage of lack of competition, on the one hand, or being subjected to unreasonable competition, on the other, the ultimate economic results of which

are sure to be harmful in either event. Expense of operation usually accords fairly well with the service rendered, and under conditions of reasonable competition the price spread or gross margin adjusts itself fairly well to the service rendered, with a reasonable profit to the dealer. With lack of reasonable competition, or with excess of competition, the gross margin is likely to be excessive in the one case or too small in the other as compared with the service rendered and with the expense involved.

The difference in total operating expenses between the groups of low net profit and those of high net profit is generally distributed among the various items of expense. The item of wages carries a large part of the difference, but less proportionately than its share of total expense. Advertising was reported slightly higher by the concerns with low net profit than by those of high net profit. In examining individual instances it is found that among concerns making highest expenditures for advertising there is a wide variation between generous profits and net losses and that a similar variation exists among those who advertise little or not at all. Under suitable conditions judicious advertising doubtless proves advantageous to the dealer; but these group figures do not offer any encouragement for its use as a general practice in the meat trade. It would be of much interest to know whether there is any definite relationship between rent and advertising, to what extent by the use of advertising trade may be drawn to a less desirable location where there may be a saving in the amount of rent. To some extent this would, of course, occur; but no general conclusions can be drawn, since it is found that among those individual dealers whose expense of advertising was highest some had rental expenses above and some below the average of their group.

Losses from bad debts were appreciably higher in the group of lowest profits, but the aggregate amount was so small as to be of no particular significance in the general result. Wrappings and the group—refrigeration, heat, light, and power—which might be expected to be fairly constant regardless of the rate of profit, show the least variation of any of the items. Interest also shows but little variation with reference to the degree of profit, since the amount of merchandise carried, an important element in determining profit or loss in most lines of merchandising, is unimportant in the meat trade. Delivery expense, including the delivery portion of wages, was much higher in the low profits groups than in the higher, which, perhaps, reflects an actual condition in the trade that heavy delivery expense, when the service is not kept within bounds, is likely to have an unfavorable effect upon net profits.

The slightly higher expense of the groups with low net profits is so generally distributed among the various items that it seems to be due primarily to somewhat less efficient operation generally, resulting in lower volume of sales in comparison with size of plant or in conducting a plant more expensive than the trade warrants, rather than to high expense in particular items. Because of this lower volume of sales, the percentage relationship of each of the expense items to net sales is higher in substantially all instances in the lower than in the higher net-profits groups; and the relationship of these expense items to each other by group averages is quite uni-

form throughout, in view of the small number of concerns in each group. Individual instances within the groups show considerable variations, but in the average of groups even of moderate size rather definite relationships between groups appear.

TABLE 41.—*Gross margin, net profit or loss, and operating expenses in markets grouped according to comparative net profit or loss*

[Percentages calculated on basis of net sales as 100 per cent]

Groups of markets by class of service and comparative net profit or loss	Number of stores	Net profit	Gross margin	Total expense	Wages	Advertising	Wrappings	Refrigeration, heat, light, power	Rent	Interest	Bad debts	All other expenses	Delivery expense		
													Wages	Other	Total
Carry stores:		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Highest one-fourth of all groups	19	7.13	22.63	15.50	10.05	0.09	0.85	1.03	1.50	0.37	0.14	1.47	----	----	----
Second one-fourth of all groups	18	3.37	20.00	16.63	10.39	.23	.75	1.15	1.69	.56	.14	1.72	----	----	----
Third one-fourth of all groups	18	1.16	16.14	14.98	9.19	.08	.73	1.07	1.92	.39	.14	1.46	----	----	----
Lowest one-fourth of all groups	18	−1.02	14.74	15.76	10.44	.32	.72	.88	1.25	.42	.12	1.61	----	----	----
Delivery stores:															
Highest one-fourth of all groups	34	6.80	22.74	15.94	9.75	.14	.75	.96	1.15	.63	.25	2.31	1.39	0.97	2.36
Second one-fourth of all groups	33	3.02	20.01	16.99	10.87	.11	.92	.97	1.14	.50	.24	2.24	1.40	.99	2.39
Third one-fourth of all groups	33	1.17	19.67	18.50	11.19	.20	.83	1.01	1.44	.47	.24	3.12	1.64	1.39	3.03
Lowest one-fourth of all groups	33	−1.75	16.41	18.16	10.55	.06	.76	1.12	1.30	.63	.35	3.39	1.62	1.18	2.80
Both carry and delivery stores:															
Highest one-fourth of all groups	53	6.91	22.70	15.79	9.85	.12	.78	.98	1.27	.54	.21	2.04	----	----	----
Second one-fourth of all groups	51	3.14	20.01	16.87	10.71	.15	.86	1.03	1.32	.52	.21	2.07	----	----	----
Third one-fourth of all groups	51	3.16	18.49	17.33	10.52	.16	.80	1.03	1.60	.44	.21	2.57	----	----	----
Lowest one-fourth of all groups	51	−1.51	15.85	17.36	10.51	.15	.75	1.04	1.28	.56	.27	2.80	----	----	----

In making up weighted averages in this table, there has been the usual grouping of markets by volume of sales, but no grouping by sections of the country, since the resulting subgroups would then be so small that variations between markets would be unduly emphasized.

The column "All other expenses" includes telephone, depreciation, repairs, insurance, taxes, and "other expense" of Table 28.

GENERAL RESULTS SHOWN AS MEDIAN AND AS INTERQUARTILE RANGE

Since data were available as a basis, a complete system of weighted averages has been used in this study. A simple average in which stores individually were given equal weight or the total volume of sales of all stores was taken as a basis would here give erroneous results. The median and the mode are not perfectly applicable where such extended analysis and such varied combinations are attempted as in the present study.

Although the median is not fully applicable in a study attempting such complete analysis, it is of interest to show some of the results by the median and by the interquartile range for comparison with the weighted average. Accordingly, the results are shown for the individual markets grouped by class of service, as carry and delivery, and by volume of sales. It is not practicable to make a further division by sections of the country, because the number of markets in each subgroup would be unduly small and the presentation would become too complicated. Moreover, combining both carry and de-

livery markets into the same groups would give meaningless results, since gross margin and expenses are regularly higher in the delivery than in the carry groups of equal volume of sales. In so far as it is applicable, it is found that the median gives results not greatly different from the weighted average. (See Table 42 and compare Table 28.) The interquartile range (Table 42) is helpful in correcting an exaggerated idea of definiteness that is likely to result from the use of a single figure for each group and subgroup, within which there is, in fact, great variation in the various items of expense and profits.

TABLE 42.—*Gross margin, net profit, total expense, and wages in the retail meat trade shown as median and as range of middle 50 per cent of individual markets grouped by class of service and by volume of annual sales, calendar year 1919*

(Percentages calculated on basis of net sales as 100 per cent)

MEDIAN

Groups by class of service and annual sales	Number of stores	Cost of goods	Gross margin	Net profit	Total expense	Salaries and wages
Carry stores:		*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Under $25,000	11	81.71	18.29	2.14	17.58	9.85
$25,000 to $50,000	22	80.90	19.10	2.66	16.88	10.50
$50,000 to $100,000	28	81.67	18.33	3.16	14.41	9.45
Over $100,000	12	82.51	17.49	1.45	14.72	8.85
Delivery stores:						
Under $25,000	13	78.31	21.69	1.24	18.86	11.90
$25,000 to $50,000	40	79.98	20.02	1.57	17.64	11.25
$50,000 to $100,000	43	80.83	19.17	1.65	16.47	10.53
$100,000 to $200,000	25	81.04	18.96	2.76	15.68	9.23
Over $200,000	12	81.79	18.21	4.00	13.96	8.15

RANGE OF MIDDLE 50 PER CENT

Carrystores:						
Under $25,000	11	80.80 to 83.48	16.52 to 19.20	−0.17 to 3.54	15.13 to 18.53	9.58 to 11.92
$25,000 to $50,000	22	78.52 to 84.00	16.00 to 21.48	−0.45 to 3.69	14.73 to 17.67	9.39 to 11.52
$50,000 to $100,000	28	79.48 to 85.64	14.36 to 20.52	1.10 to 5.83	12.49 to 16.63	8.52 to 10.87
Over $100,000	12	80.54 to 84.57	15.43 to 19.46	1.01 to 2.83	12.83 to 17.02	6.95 to 11.23
Delivery stores:						
Under $25,000	13	75.14 to 80.58	19.42 to 24.86	0.88 to 6.12	18.34 to 20.52	10.74 to 12.70
$25,000 to $50,000	40	77.28 to 81.77	18.23 to 22.72	−0.20 to 3.28	15.38 to 21.13	9.37 to 13.82
$50,000 to $100,000	43	78.62 to 84.41	15.59 to 21.38	0.37 to 3.65	15.39 to 18.48	9.74 to 11.47
$100,000 to $200,000	25	78.92 to 85.06	14.94 to 21.08	0.58 to 4.87	12.66 to 18.19	7.57 to 10.80
Over $200,000	12	80.14 to 82.90	17.10 to 19.86	2.57 to 5.97	13.89 to 15.21	7.34 to 9.47

The median in statistical usage is the middle item of a series when there is an odd number in the series and is a point half way between the two middle items when an even number. In the series of data from which this table is taken, one-half of the items in each series is above and the other half below the figure given in the table as the median.

The range of middle 50 per cent, known in statistical usage as the interquartile range, is the range shown by the remaining items of a series after excluding the one-quarter of the total number of items at each end of the series. In the series of data from which this table is taken, the lowest one-quarter and the highest one-quarter of the total number of items in each series is excluded, leaving the range of the middle 50 per cent, as shown in the table.

INVESTMENT AND STOCK TURN

In determining the amount of capital investment in the business, as in store and office equipment, delivery equipment, stock of merchandise carried, and cash-and-credit balance for current use, certain special problems and difficulties were encountered:

(1) Accounting records were found to be less satisfactory with reference to investment items than with reference to costs, sales, and current expenses. Fortunately, for the purpose of studying expenses and profits, the amount of total investment in the meat trade is so small that the element of error that might result in such items

as depreciation and interest on owned capital would not greatly affect the amount of total expense or of net profit. Error was largely avoided by making actual inventories of equipment, but in dealing with investment items alone it should be understood that there is possibility of greater percentage of error than in dealing with expenses and profits.

(2) In the amount of merchandise inventory there is a wide difference between those concerns handling meats alone and those handling in addition even a small percentage of more slowly moving merchandise. Since a small percentage of such merchandise does not appreciably affect the various items of expense, it seemed desirable to include such concerns in the study of operating expenses, in order to have data from a larger number of concerns. Since in their investment items these concerns differ greatly from concerns carrying meats exclusively, it has seemed best not to include them in summarizing data regarding merchandise inventory and other items of investment. Accordingly, in the study of investment and stock turn, data are used for the 60 carry stores and 88 delivery stores with trade limited strictly to meats, a total of 148 (Table 43), instead of the larger number used in studying operating expenses and profits (Table 28).

(3) Valuation of equipment presented such difficulties as must necessarily occur at a time of violent changes in prices. If equipment should be valued on one basis at the beginning of the year and on another at the close, it is obvious that the net profit would be affected by the change. Although such a change in basis would more accurately show the net worth of the concern, it would incorrectly show the business profits of its merchandising operations. Accordingly, the same basis of valuation per unit of equipment was used at the beginning and at the close of the year, with allowance merely for depreciation from usuage and obsolescence.

STORE AND OFFICE EQUIPMENT

Inventory value of store and office equipment varied from approximately 5 per cent of the amount of annual net sales in the smallest stores to approximately 3 per cent in the largest (see Table 43). Although equipment is regularly much more complete and more expensive in the larger stores, the larger volume of sales makes possible the utilization of the equipment so much more constantly that the percentage relation to business done is lower. As between carry and delivery stores, the relation of store and office equipment to sales was found to be appreciably higher in the former than in the latter. For attracting trade the carry store must rely in a large part upon the general appearance of equipment for customers shopping in person, along with lower prices, while the delivery store relies more largely upon the service rendered.

DELIVERY EQUIPMENT

Inventory value of delivery equipment varied from approximately 1 per cent of the amount of annual net sales in the smallest stores to approximately 0.4 per cent in the largest. The high ratio in the smaller stores is undoubtedly largely due to the fact that the equipment is idle a large part of the time, while it is more constantly utilized in the larger stores. It accords with a higher wage expense for delivery in smaller than in larger stores. (See Table 28.)

TABLE 43.—*Relation of equipment, merchandise inventory, cash and credit items, and total net investment to volume of annual net sales, 1919* [1]

Groups of stores by class of service and annual net sales	Number of stores	Relation to volume of annual net sales				
		Store and office equipment	Delivery equipment	Average merchandise inventory	Cash and credit items: cash balance, excess of accounts receivable over accounts payable, etc.	Total net investment including borrowed capital
		Per cent	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Carry stores:						
Not over $25,000	11	4.78	----------	1.23	3.01	9.02
$25,001 to $50,000	18	4.31	----------	.86	1.92	7.09
$50,001 to $100,000	21	3.09	----------	.73	1.64	5.46
Over $100,000	10	4.40	----------	.72	.99	6.11
All carry stores	60	4.18	----------	.88	1.90	6.96
Delivery stores:						
Not over $25,000	11	5.43	1.16	.95	3.23	10.77
$25,001 to $50,000	26	3.95	.87	.91	3.17	8.90
$50,001 to $100,000	28	2.98	.79	.72	1.89	6.38
$100,001 to $200,000	15	2.32	.60	.70	1.61	5.23
Over $200,000	8	2.27	.37	.71	2.36	5.71
All delivery stores	88	3.72	.84	.84	2.69	8.09
Carry and delivery stores combined:						
Not over $25,000	22	5.21	.77	1.04	3.17	10.19
$25,001 to $50,000	44	4.07	.58	.89	2.76	8.30
$50,001 to $100,000	49	3.02	.53	.72	1.80	6.07
Over $100,000	33	3.00	.32	.71	1.65	5.68
All stores combined	148	3.87	.56	.85	2.43	7.71

[1] In this table are included merely concerns selling meats only. In the 73 carry stores and 133 delivery stores of Table 28 are included some concerns with a small percentage of other merchandise. Real estate occupied by dealers is not included among the items of investment. In most instances, the building is not owned by the proprietor of the meat business, and an attempt at average figures would be meaningless. Moreover, in most instances, the building is used for other purposes also, and in many instances it would not be possible to give even an approximate separate value of the portion used as a meat market. In merchandising under modern conditions, real estate may well be considered separately from the movable property directly employed in the business. If some indication of real estate investment be desired, a rough estimate may be made by capitalizing rental value (see Table 28) on the basis of 10 per cent. On this basis, real estate investment would be approximately 12 to 15 per cent of the amount of annual net sales. It would be more than all other items of investment combined; and in this respect it undoubtedly differs from other lines of merchandising carrying large stock in trade as compared with annual turnover.

MERCHANDISE INVENTORY

In most lines of retail merchandising there is a substantial amount of stock on hand at all times, and this amount varies somewhat slowly. In the meat trade, particularly in the fresh-meat trade, the stock on hand at any time is extremely small as compared with the annual turnover, and the quantity on hand at one time in the week may be several times as large as at some other time. One small dealer described his stock inventory as "a side of meat in the morning and a pile of bones in the evening"; and estimates from a large number of dealers indicated, with a considerable degree of uniformity in well-equipped stores of all sizes, weekly peak loads for the Saturday trade approximately two and one-half times as large as the weekly low points.

The weighted average of the 148 stores showed merchandise inventories of 0.85 per cent of annual sales. (See Table 43.) This

figure corresponds approximately to 1.05 per cent of annual purchases. On the basis of a weekly peak load of two and one-half times the minimum, the average peak load is 1.5 per cent of annual purchases and the average minimum is 0.6 per cent. Since the dealer must provide for the weekly peak load, which in the intervening period is represented by a larger cash or credit balance, this average peak load should perhaps be considered the average merchandise inventory for determining the rate of stock turn or for other purposes.

The small amount of merchandise carried in stock in relation to the volume sold, necessitated by the perishable character of the commodity, is one of the striking characteristics of the meat trade. In comparison with an average inventory of 1.5 per cent of annual purchases in the retail meat trade, merchandise inventories are from 9 to 12 per cent of annual purchases in the retail grocery trade, from 40 to 70 per cent in the retail shoe trade, and from 100 to 150 per cent in the retail jewelry trade.[2]

CASH AND CREDIT ITEMS OF INVESTMENT

In addition to store and delivery equipment and merchandise on hand, the dealer must have a balance of cash on hand and in bank for current operations; and, unless the business is conducted on a strictly cash basis, he will ordinarily have a credit balance, or excess of bills and accounts receivable over bills and accounts payable.

Since delivery stores generally extend credit to their customers and carry stores do not, it is to be expected that this credit balance will be substantially larger among delivery stores. Accordingly, in the weighted average of the returns received, the total of such items was 2.69 per cent of annual net sales in the delivery group and 1.90 per cent in the carry group. The difference of 0.79 per cent of annual sales, or its equivalent of 9.48 per cent of average monthly sales, is perhaps hardly a rough indication of the amount of capital of the dealer tied up in extending credit, since the comparison is between two entirely different sets of stores, and a further variation results from the greater or less freedom with which the one or the other class receives credit from wholesalers and slaughterers.

In general, the total of these items is relatively substantially larger in the smaller than in the larger stores. The explanation undoubtedly lies partly in the greater amount of credit extended by the small neighborhood store and partly in the somewhat less prompt collection of accounts by such stores than by larger concerns. There is also the factor that when business is done on a small scale the machinery provided must be larger in relation to the business done. This principle would apply to cash on hand and in bank as well as to equipment.

TOTAL NET INVESTMENT

The total net investment for the 60 carry stores with trade confined strictly to meat was 6.96 per cent of annual net sales and for the 88 delivery stores 8.09 per cent. (See Table 43.) At the allowed

[2] Estimates based upon data published in bulletins of the Bureau of Business Research of Harvard University.

rate of 6 per cent, the interest on investment is slightly lower than for the entire group of stores, including those with a small element of other goods. (See Table 28.)

STOCK TURN

It is obvious that the rate of stock turn in the sale of such a highly perishable commodity as fresh meat is much higher than in less perishable merchandise. In the canvass of the trade, dealers were asked the time required for stock turn of fresh meats, and the usual reply was two or three days. Although with satisfactory refrigeration equipment the dealer can easily keep fresh meat for a much longer period, the average time between purchase and sale for dealers who make their purchases merely as trade requires seems to be slightly under three business days. If trade were confined to fresh meat, if reserve stocks were not carried, and if sales occurred steadily in uniform volume, this would mean a stock turn of approximately 100 times a year.

In the larger stores, the rate of sale is usually much more rapid than in the smaller, since the larger stores sell several or many sides of beef a day, while the smallest may require two or more days for selling a single side. However, larger concerns with good refrigeration equipment in many instances find it advantageous to purchase several days' supply in advance, and the average time between purchase and sale in such instances is longer than in the smaller concerns. Concerns which obtain their supplies but once a week, as on refrigerator-car routes with weekly service, can of course have a stock turn of only 52 times a year, even though their weekly sales may occur almost entirely within the first day or two.

The usual formula for determining the rate of stock turn is to divide the cost of merchandise sold by average inventory figured at cost. In the meat trade, using the average weekly peak load as the inventory, 1.5 per cent of annual purchases, the stock turn is 67 times a year. The stock turn on cured is regularly less rapid than on fresh meats. Since the usual stock turn on retail groceries is approximately 10 times a year, those meat dealers carrying canned goods or other groceries have a slower movement of their entire trade; and the group of combination stores furnishing accounting information were found to have stock turns for the most part varying between 20 and 25 times a year.

A rapid stock turn is usually advantageous in the meat trade as in other trades, but the advantages are of a different kind. In the meat trade it might better be referred to as promptness of sale, since the advantages are almost entirely in avoiding deterioration in quality and shrinkage by evaporation. It is a very different problem from a rate of stock turn as a matter of tying up capital in investment, which is a highly important element in lines of trade where the usual rate of stock turn is once or twice a year or even in those where the rate is 8 or 10 times a year, although in these trades also there is an accompanying factor of deterioration.

In the retail jewelry trade the usual rate of stock turn is less than once a year. In consequence, interest on investment, more than 75 per cent of which is merchandise inventory, is approximately

6 per cent of sales; and the difference in the interest expense between concerns with a rapid stock turn and those with a slow stock turn may easily be sufficient to determine the difference between a net profit and a net loss.[3] In the retail shoe trade the usual rate of stock turn is between once and twice a year; and interest on investment is approximately 3 per cent of sales. In this trade also, interest expense, varying with the rate of stock turn, is a large element in determining whether the business shall show a profit or a loss.[4] In the retail grocery trade, with stock turn varying between 6 and 12 times a year, interest is still of some importance as an item of expense in determining profit or loss.[5]

In the retail meat trade the rate of stock turn is usually between 50 and 100 times a year. Interest on investment is only about one-half of 1 per cent of the amount of annual sales (see Table 28), and of the investment but little more than 10 per cent is usually merchandise. (See Table 43.) In consequence, the effect of the rate of stock turn on the item of interest is hardly appreciable in total expense. Fresh beef is usually sold by the retailer about 15 days after the time of slaughter, except when slaughtered locally; and it can be carried a longer period under suitable conditions of refrigeration. Beef of the higher grades particularly is often held in the "ripening" process until 20 or 30 days from the time of slaughter. Cured meats, except for shrinkage by evaporation, can be carried a much longer time.

A retail dealer with large refrigeration equipment for his fresh meats can easily carry a supply of combined cured and fresh meats in value the equivalent of two weeks of sales, which would mean a stock turn of 26 times a year. The interest expense of carrying such a supply would be approximately equivalent to one-fourth of 1 per cent of net sales. If meats are selling at 15 to 20 cents a pound at wholesale, a saving of one-twentieth of 1 cent a pound on the purchase price would more than compensate for this loss of interest. Many dealers find the advantage of purchasing in large quantities sufficient to meet this interest expense, the cost of maintaining large refrigeration equipment, and the loss in deterioration and in shrinkage by evaporation.

A rapid stock turn in the sense of prompt sale is clearly advantageous in so far as it avoids shrinkage and deterioration. Meats of low grade particularly should be sold promptly, and any holding until deterioration occurs is an economic loss to the community as well as a commercial loss to the dealer. In the matter of interest or investment, the expense of a slow stock turn in the meat trade is so small that it is often more than counterbalanced by the advantages of purchasing on a larger scale. To the small dealer this may mean merely purchasing in sides instead of in cuts; to the large dealer it may mean taking advantage of favorable market conditions.

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[3] "The principal difference (in average cost of doing business in the retail jewelry trade) appeared in the item of total interest expense, which was 8.4 per cent of net merchandise sales for firms that turned their stock less than 0.7 time, as compared with 3.9 per cent for firms that turned their stock one or more times in 1922. (Harvard Bureau of Business Research, Bull. No. 38, p. 51. 1923.)

[4] "The largest difference in expense (in the retail shoe trade) was in total interest, which was 4.4 per cent of net sales for the firms that turned their stock less than 1.4 times in 1922, as compared with 2 per cent for firms turning their stock 2.2 times or more." (Harvard Bureau of Business Research, Bull. No. 36, p. 57. 1923.)

[5] See Harvard Bureau of Business Research, Bulletin No. 41, pp. 46, 47. (1924.)

TYPICAL OPERATING STATEMENTS

To present the average results for operating expenses and profits in dollars and cents in the form in which they appear in accounting records, typical operating statements have been prepared based upon the data collected. (See Table 44.) The statements presented are for the five groups of delivery meat markets according to volume of net annual sales. The representative figure for net sales in each group is an approximate average in round numbers of all the concerns from which information was obtained in that group. Upon the basis of net sales as 100 per cent the other items are arrived at by applying the weighted average percentage figures (Table 28) for each item in each of the five groups to the representative figure for net sales in that group. In the groups with sales between $100,001 and $200,000 and with sales over $200,000 the items are segregated into the groups, selling expense, delivery expense, buying and management expense, and general expense (as in Table 32). It seems unnecessary to present statements for carry stores, since by deducting the amount of the delivery expense and reducing net sales by an equivalent amount in each instance operating statements may be obtained which are approximately correct for carry stores. It should be remembered that the item "Cost of merchandise sold" is determined by adding the actual purchases during the year to the inventory at the beginning of the year and subtracting from the sum the inventory at the close of the year.

TABLE 44.—*Typical operating statements for individual meat markets with delivery service.*

Item	A. Concerns with sales not over $25,000		B. Concerns with sales between $25,001 and $50,000		C. Concerns with sales between $50,001 and $100,000	
		Per cent		*Per cent*		*Per cent*
Net sales	$20,000.00	100.00	$35,000.00	100.00	$70,000.00	100.00
Cost of merchandise sold	15,712.00	78.56	27,968.50	79.91	56,763.00	81.09
Gross margin	4,288.00	21.44	7,031.50	20.09	12,237.00	18.91
Salaries and wages	$2,266.00	11.33	$4,080.50	11.67	$7,371.00	10.53
Delivery wages	(412.00)	(2.06)	(760.00)	(1.90)	(945.00)	(1.35)
Advertising	22.00	.11	28.00	.08	133.00	.19
Wrappings	172.00	.86	266.00	.76	455.00	.65
Refrigeration	210.00	1.05	308.00	.88	406.00	.58
Heat, light, and power	54.00	.27	101.50	.29	175.00	.25
Telephone	54.00	.27	80.50	.23	126.00	.18
Rent	338.00	1.69	416.50	1.19	812.00	1.16
Interest	146.00	.73	203.00	.58	343.00	.49
On capital owned	(110.00)	(.55)	(140.00)	(.40)	(252.00)	(.36)
On capital borrowed	(36.00)	(.18)	(63.00)	(.18)	(91.00)	(.13)
Depreciation of store equipment	152.00	.76	147.00	.42	217.00	.31
Repairs to store equipment	44.00	.22	45.50	.13	126.00	.18
Insurance	10.00	.05	21.00	.06	98.00	.14
Taxes	42.00	.21	38.50	.11	63.00	.09
Losses from bad debts	38.00	.19	119.00	.34	161.00	.23
Other expense	284.00	1.42	490.00	1.40	1,078.00	1.54
Other delivery expense	(168.00)	(.84)	(301.00)	(.86)	(756.00)	(1.08)
Total expense	3,832.00	19.16	6,349.00	18.14	11,564.00	16.52
Net profit	456.00	2.28	682.50	1.95	1,673.00	2.39

TABLE 44.—*Typical operating statements for individual meat markets with delivery service*—Continued

Item	D. Concerns with sales between $100,001 and $200,000				E. Concerns with sales over $200,000			
				Per ct.				*Per ct.*
Net sales			$130,000.00	100.00			$400,000.00	100.00
Cost of merchandise sold			106,639.00	82.03			330,800.00	82.70
Gross margin			23,361.00	17.97			69,200.00	17.30
Wages of sales force	$8,151.00			6.27	$22,080.00			5.52
Advertising	364.00			.28	1,280.00			.32
Wrappings	1,131.00			.87	3,800.00			.95
Other selling expense	208.00			.16	1,400.00			.35
Total selling expense		$9,854.00		7.58		$28,560.00		7.14
Wages of delivery force	1,157.00			.89	3,120.00			.78
Other delivery expense	1,599.00			1.23	4,200.00			1.05
Total delivery expense		2,756.00		2.12		7,320.00		1.83
Buying, management, and office salaries	2,483.00			1.91	7,120.00			1.78
Office supplies and expense	91.00			.07	680.00			.17
Total buying and management expense		2,574.00		1.98		7,800.00		1.95
Refrigeration	754.00			.58	1,200.00			.30
Heat, light, and power	364.00			.28	1,200.00			.30
Telephone	169.00			.13	400.00			.10
Rent	1,625.00			1.25	3,560.00			.89
Interest	520.00			.40	1,400.00			.35
(On capital owned)	(442.00)			(.34)	(1,040.00)			(.26)
(On capital borrowed)	(78.00)			(.06)	(360.00)			(.09)
Depreciation of store equipment	312.00			.24	960.00			.24
Repairs to store equipment	247.00			.19	520.00			.13
Insurance	130.00			.10	520.00			.13
Taxes	65.00			.05	160.00			.04
Losses from bad debts	312.00			.24	1,040.00			.26
Other expense	377.00			.29	2,320.00			.58
Total general expense		4,875.00		3.75		13,280.00		3.32
Total expense			20,059.00	15.43			56,960.00	14.24
Net profit			3,302.00	2.54			12,240.00	3.06

TABLE 45.—*Classification by cities, amount of sales, and classes of service of retail meat dealers furnishing accounting data for 1919*

Section and city	A. Meat markets with family trade												
	Sales not over $25,000		Sales between $25,001 and $50,000		Sales between $50,001 and $100, 000		Sales between $100,001 and $200,000		Sales over $200,000		Total		Total, both classes
	Carry	Delivery	Carry	Delivery	Carry	Delivery	Carry	Delivery	Carry	Delivery	Carry	Delivery	
Northeast section:													
Concord, N. H.				1								1	1
Binghamton, N. Y.	1	1		1	1	2	1	2			3	6	9
New York, N. Y.		1		1	3	6	2	8		6	5	22	27
Pittsburgh, Pa.	4	3	10	10	5	12	1	2		1	20	28	48
Baltimore, Md.								1				1	1
Central section:													
Chicago, Ill.			2	1	9	6		1			11	8	19
Eau Claire, Wis.			1	5		1					1	6	7
St. Paul, Minn.	1		2	2	1	5	2	2		3	6	12	18
Des Moines, Iowa	1		2	1	3						6	1	7
Lincoln, Nebr.				2	1	2	2	1			3	5	8
Springfield, Mo.				1								1	1
Butte, Mont.				1		1						2	2
Southeast section:													
Winston-Salem, N. C.				1								1	1
Bowling Green, Ky.		1										1	1
Memphis, Tenn.				2		1		2				5	5
Birmingham, Ala.		1				2		2				5	5
Baton Rouge, La.								1				1	1
Pacific coast section:													
Portland, Oreg.		6	1	7	2	2		1		2	3	18	21
San Francisco, Calif.	1			2	1	2			3		5	4	9
Los Angeles, Calif.	3		4	2	2	1	1	2			10	5	15
Total	11	13	22	40	28	43	9	25	3	12	73	135	206

Section and city	B. Meat markets with combined family and restaurant trade								C. Combination stores with family trade. (All these stores extend credit and give delivery service)				
	Sales between $100,001 and $200,000		Sales between $200,001 and $400,000		Sales over $400,000		Total		Sales between $25,001 and $50,000	Sales between $50,001 and $100,000	Sales between $100,001 and $200,000	Sales over $200,000	Total
	Carry	Delivery	Carry	Delivery	Carry	Delivery	Carry	Delivery	Total, both classes				
Northeast section:													
Concord, N. H.										2	2	1	5
Lowell, Mass.										2	2		6
Hartford, Conn.						1		1	1	1	3	1	6
Binghamton, N. Y.											1	2	3
New York, N. Y.		2						2	2				
Pittsburgh, Pa.		1		2				3	3	1	1	3	5
Central section:													
Terre Haute, Ind.		1						1	1			2	1	3
Chicago, Ill.			1	4		1	1	5	6				2	2
St. Paul, Minn.	1		1	1		2	2	3	5	1			1	2
Des Moines, Iowa												1	3	4
Lincoln, Nebr.		1						1	1			2		2
Springfield, Mo.		[1]1						1	1					
Butte, Mont.		1						1	1	1		2	1	4
Southeast section:														
Bowling Green, Ky.										1				1
Memphis, Tenn.													1	1
Birmingham, Ala.				1				1	1	3	6	2		11
New Orelans, La.				1				1	1					
Pacific coast section:														
Portland, Oreg.				1				1	1					
Total	1	7	2	10		4	3	21	24	12	13	14	16	55

[1] The store at Springfield, Mo., had sales of less than $100,000.

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